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# e-Learning in a Rural Irish Primary Classroom: Implementation and Possibilities

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Doctorate in Education(Ed.D)

The Open University  
Anne Moriarty M.Ed B.Ed  
January 2015

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DATE of SUBMISSION: 28 JANUARY 2015

DATE of AWARD: 5 NOVEMBER 2015

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## **Acknowledgements**

I offer my sincere thanks and appreciation to Dr. Christopher Walsh and Professor Teresa Cremin for their wisdom, thoughts, patience and time during my journey over the past four years.

This journey would also not have been completed without the love, encouragement and patience of Derek, who has tolerated my recurrent unavailability over the past four years and supported me unfalteringly. Thank you Katie for being my motivation and to my parents, family and numerous friends for emotional support in all I do.

Finally I would like to thank my colleagues and pupils, past and present. Thank you especially to those pupils involved in the study for your ideas, energy and inspiration. Without you this thesis would not have been possible.



## Abstract

The aim of this practitioner-research was to ascertain the nature of pupils' literacy practices when I implemented e-learning practices through a 'multiliteracies pedagogy' in my Irish, multi-age rural, primary classroom. Through action research, I explored the suitability of the four components of a multiliteracies pedagogy: *Situated practice*, *Overt instruction*, *Critical framing*, and *Transformed practice* (New London Group (NLG), 2000) for enacting e-learning practices in a multi-age classroom. Additionally, this study aimed to better understand the potential for fostering teacher creativity using a multiliteracies pedagogy to implement new e-learning practices over more traditional print-based practices. I researched the production and design of short animated films by my 7-9 year old pupils, based on a strand unit in history. The research focused on 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> classes in one multi-ability and gender classroom. It employed a mixed methods approach, incorporating action research and engaging pupils as researchers. Critical incidents were used to select data on the basis of multiliteracies pedagogical components (NLG, 2000). The analytic strategy of data sets was deductive and inductive, based on deductive categories of pupils' literacy practices (Lee and O'Rourke, 2006; NLG, 2000) and features of creative teaching (Jeffrey and Craft, 2004). I used these to analyse the e-learning aspect, exploring the possibilities of learning 'through' rather than 'about' technology. The findings of the study advance the understanding of using a multiliteracies pedagogy to implement e-learning practices in a primary classroom. Findings highlight the potential of multiliteracies pedagogy to foster teacher creativity and the impact of e-learning to motivate and to make pupils' literacy practices more relevant in the classroom, currently under-researched in an Irish context.

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**Abbreviations**

- DES Department of Education and Science/Skills
- INTO Irish National Teachers Organisation
- ICT Information and Communication Technologies
- NCCA National Council for Curriculum and Assessment
- NLG New London Group
- FÍS Film In Schools
- NCTE National Centre for Technology in Education
- CPF Computer Practice Framework
- IFI Irish Film Institute
- NACCCE National Advisory Committee on Creative and Cultural Education
- OECD Organisation for Economic Co-operation and Development
- UNESCO United Nations Educational, Scientific and Cultural Organisation

## **Chapter 1 Introduction**

This introduction describes the background to my research study in terms of the theoretical and empirical context in which it is set, the historical and political context of e-learning and then my personal motivations. The aims and objectives are next outlined in terms of e-learning and creativity. The concluding section of the chapter outlines the structure of the thesis.

### **1.1 The background to the study**

This practitioner action research study explores the implementation of e-learning, through animated film-making in my rural multi-age Irish primary classroom. The study aims to understand whether using digital technologies, characteristic of e-learning in my classroom encourages/does not encourage teacher creativity or impacts/does not impact on pupils' literacy practices in our history class through the implementation of a multiliteracies pedagogy. The status of e-learning in Irish primary schools is high-agenda, in an educational climate with increased accountability that does not assess pupils' digital literacy proficiencies. While e-learning is expected, there is little understanding of how this can successfully be achieved in practice, in a rural, multi-age context such as mine. Multi-age is an important element in Irish primary schools, as at least 45.9% of primary schools in Ireland (INTO, 2013), particularly outside urban areas, have less than eight classroom teachers and thus are composed of multi-age classes. In rural contexts such as mine, teaching in a multi-age classroom is expected practice.

I employed action research (Nixon, 2007; Lee and O'Rourke, 2006; Millard, 2003) to understand and reflect on the introduction of e-learning practices through the implementation of a multiliteracies pedagogy (NLG, 2000) that capitalises on situated learning, overt

instruction, critical framing and transformed practice. A goal of my Doctoral study is to inform my judgements and decisions, in order to improve my literacy teaching practices, specifically in history, and to improve my pupils' learning. I assert that teachers like myself who engage in reflective practice through action research, are best placed to strategically examine and transform their practice, through 'self-reflective enquiry' (Kemmis, 1988 p.168). Action research takes into account the various inter-related issues that shape my specific context, particularly pupils who are multi-age and multi-ability working collaboratively in one setting. I use critical incidents (Orland-Barak and Yinon, 2005; Tripp, 1993; Brookfield, 1990) in the form of memorable incidents that pose challenge to practice, to illuminate the data, to help me to reflect on my practice and answer my research questions. I also engage pupils to conduct their own research about their classroom experience when I introduced new e-learning practices, where pupils exercise their own voice. Their findings allowed me to learn about pupils' perceptions of the value of e-learning and the extent to which pupils believe these literacy practices within the multiliteracies pedagogy were working/not working to improve their literacy practices to transcend 'decoration' of their work.

### ***1.1.1 A description of the study site***

I am a teaching principal in a rural, multi-age, ability and mixed-gender primary school. This primary school, where my research was conducted, is in a rural village in Ireland. There are 71 mixed gender pupils in the school and the school ethos is Roman Catholic. The school is designated as 'DEIS Rural' (Delivering Equality of opportunity In Schools), signifying educational disadvantage as outlined in the Education Act (1998) in terms of literacy, numeracy, attendance and parental involvement. The school has a vertical structure of eight class levels, with pupils in attendance from 4 to 12 years of age. There are three mainstream class teachers, a learning support teacher, shared with one other school, and a resource

teacher, shared with three other schools. There are eleven subjects on the primary curriculum, including history, each taught by the class teacher. ICT is not a formal subject on the curriculum but the school follows an e-Learning plan, internally devised by the staff and Board of Management (BOM) according to NCTE national guidelines (2010). Instruction is through the medium of English, although Irish is integrated informally throughout the school day, which runs from 9.20a.m. - 3p.m.

## **1.2 Theoretical and empirical context**

### ***1.2.1 e-Learning as situated learning***

There is broad consensus in research that e-learning through and with ICTs, when integrated innovatively across the curriculum can provide enriching, collaborative, accessible and meaningful learning experiences and outcomes for children and young people (Granić, et al., 2009; Walsh, 2009, 2007; DES, 2008; Twining, 2008; Condie and Livingston, 2007; Comber and Kamler, 2005; Mayes and de Freitas, 2004; Somekh, 2000). There is a constantly growing expectation of teachers and pupils, within Ireland and the UK to engage in and excel, in the reading, viewing and design of digital media in schools (DES, 2008; Twining, 2008). This is evidenced by a budget of €24m announced by the DES in 2010, clearly indicating e-learning's priority status for the Irish Government in a time of economic crisis. In this respect, e-learning, can potentially enhance classroom learning and teaching, producing citizens who can be successful in an increasingly digitised society.

I intended to capitalise on the out-of-school literacy practices of pupils to make teaching and learning in my classroom more aligned with their practices and experiences outside of school, their 'lifeworlds' (Walsh, 2009, p.129), warehoused in and emerging from their virtual schoolbags (Thomson, 2002). Capitalising on these possibilities of harnessing e-learning in my classroom is the notion of situated learning (Facer, 2011; NLG, 2000; Lave and Wenger, 1991), where pupils, when using technologies, are learning in a context that is potentially

meaningful and relevant to them. Perceptions of literacy learning have changed (Craft, 2013; Kalantzis and Cope, 2000) and e-learning is a possible response to this change. While globally research has recognised the potentials of using new technologies to make classroom learning more relevant and meaningful (European Commission, 2013; Walsh, 2009, 2007; Comber and Kamler, 2005; Bearne, 2003), e-learning's teaching and learning possibilities are not used enough in the classroom, certainly in an Irish context (DES, 2008).

### ***1.2.2 Teacher creativity in an Irish context***

Ireland is recognised to be conservative and traditional in its approach to schooling (Sugrue, 2006a; OECD, 1991) with classroom routines largely teacher-centred. Use of the term creativity in an Irish education context is usually understood in aesthetic and artistic terms, such as in reference to one deemed to be good at music or art. Creativity is seen as a predetermined personal characteristic of a chosen few and this has implications for understanding its significance, or lack of, in Irish education. This is not unique to Ireland and creativity in education has been closely associated with the arts (Sawyer, 2011). The generally accepted idea of creativity as aesthetic, such as visual art, can limit creativity, in a curricular sense, to pupils using technology almost exclusively to decorate schoolwork. Despite a lack of an explicit framework for creativity in Irish education, elements of an educational framework such as *Creative Partnerships in the UK* (Spendlove and Wyse, 2008), could potentially be appropriated into the Irish curriculum. Resilience, agency, problem posing and solving and self-determination harnessed through e-learning within a multiliteracies pedagogy potentially provide more robust opportunities for teachers to be creative.

Creativity can also be seen as a generative process, manifested in behaviours, rather than exclusively as a finite product like a book, a film or activity to decorate texts that pupils author and/or design (Chappell et al., 2009; Craft, 2005). These artefacts are a valuable part



of that process but not the singular measure. Viewed in this way, creativity is within the reach of all teachers and all pupils and manifest in everyday actions that involve “acting effectively with flexibility, intelligence and novelty” (Craft, 2005, p. 19) to positively impact on effective teaching and learning.

### ***1.2.3 Objectives and rationale for creative teaching***

In an education system increasingly dominated by a performative and competitive agenda (Burnard, 2011; Ball, 2003), coupled with pupils’ proficiency with ICT, teachers are faced with the predicament of harnessing this proficiency in a productive way in order to improve teaching and learning. Teachers’ creativity, through more productive use of ICTs and agile ways of thinking and interacting, is a key issue in implementing e-learning to pupils who are arguably, often better equipped to use technology than teachers are. Creative teaching encourages teachers to engage in ‘possibility thinking’ (Craft, 2000), inspiring them to ask ‘what if’ and ‘as if’ questions, acting flexibly and imaginatively to solve a problem, or cope with changes in the 21<sup>st</sup> century (Craft, 2001). Creative teaching involves acting innovatively, encouraging pupil ownership of learning and making learning more relevant (Chappell and Craft, 2011; Jeffrey and Craft, 2004). Based on these ideas, e-learning, harnessed through the four components of a multiliteracies pedagogy, as a form of capital (Carrington and Luke, 2010, 1997) provides a unique opportunity to foster more creative teaching and potentially broaden opportunities for pupils to express what they know, and to develop knowledge by balancing traditional literacy practices with innovation, imagination and individuality.

Exploiting the pedagogical potential of multiliteracies innovatively, I felt I could potentially design and provide a more creative and relevant history curriculum, reflective of pupils’ lifeworlds. My focus is on the literacy learning and teacher creativity that can potentially be achieved through implementing e-learning’s new and emerging technologies through animated film making in our history classroom.

In my review of literature on e-learning and multiliteracies and evidenced from my pilot study, I perceived connections between teachers' creative practices and pedagogical issues. Nothing explicitly requires teachers to teach creatively or for creativity in the Irish revised curriculum (DES, 1999). An empirical study by Sugrue (2006b) highlights that Ireland has the least supportive context for creative teaching and learning within countries studied in the European Union. I found this study a catalyst to engage in creative teaching as a form of everyday creativity (Boden, 2004, 1990; Craft, 2000) in the sense of acting flexibly and innovatively, which underpins what I as a practitioner am explicitly bound to implement. Flexibly offering access to a broad and balanced curriculum (DES, 1999), with democratic access to e-learning and the provision of opportunities for pupils to develop as independent thinkers in order to succeed in an ever-changing society (NCCA, 2007a; DES 1999) requires creative teaching. Multiliteracies pedagogy and new technologies potentially act as a conduit for creative teaching.

### **1.3 Historical and political context of e-learning**

The high-interest area of using digital media in the primary classroom to facilitate learning activities is one of the fastest changing areas of education (Miller and Robertson, 2009; Probert, 2009). The growing significance of children's reading, writing, viewing and design of digital media and multimodal texts (Hadjathanasiou et al., 2010; Kress and Van Leeuwen, 2010; Granić et al., 2009; Condie and Livingston, 2007; Cuban, 2003) coupled with the expectation of the Irish Government for e-learning to become embedded in the mainstream practice in schools (DES, 2008) warrants investigation. The successful implementation of e-learning and possibilities for future use as "a powerful tool for supporting learning" (Diamond and Irwin, 2013; Mayes and de Freitas, 2004; Dempsey et al., 2002) and improving pupil's acquisition of literacy is a relevant focus in classrooms similar to my own.

The first Government policy on ICT in Irish education was formulated in 1997 (DES, 2008, p.2). Since then, after significant investment in infrastructure, training and development, integration of ICT in schools is considered “no longer a matter for debate” (DES, 2008 p.16). This political context and environment has led me to engage in practitioner research around the implementation of e-learning in my own classroom.

ICT in Irish schools is seen primarily as a tool for integrating technology into teaching and learning rather than as a subject in its own right (DES, 1999). Thus, the NCCA (2007a, 2004) issued guidelines that both reflect developments in ICT since the launch of the Revised Curriculum five years earlier and complement the subject guidelines in curriculum. The NCCA issued seven key principles to guide learners’ use of ICT to add to curriculum learning (NCCA, 2004).

Following this, a report by the Inspectorate examined the extent of ICT use and the impact of ICT on teaching and learning in 415 Irish schools (DES, 2008). The DES reported 59 percent of primary classrooms make use of ICT for teaching and learning although only 22 percent were actually observed, with evidence showing less integration in junior classes (4-8 years). There was higher evidence of peripheral use - to simply support and reinforce aspects of subjects already taught rather than as central to teaching and learning (DES, 2008, p.112, 114). There was critically low use of creative, collaborative and innovative use to develop higher order thinking skills (DES, 2008. p.115). These findings, coupled with the National Literacy and Numeracy Strategy, which calls for the recognition of the use of ICTs in literacy (DES, 2011, p. 18) have led me to engage in practitioner research in my own classroom to analyse whether implementation of e-learning in an innovative way will foster teacher creativity and impact on pupils’ literacy practices.

#### 1.4 Personal motivations for conducting the study

I wanted to make literacy learning in history more engaging and accessible by all pupils and relevant to their lifeworlds, so that they can acquire school-based literacy practices necessary for success. Drawing on Bourdieu's (1986) notion of 'embodied cultural capital' (Carrington and Luke, 2010, 1997), I view e-learning as a form of cultural capital that better enables pupils with the affordances they need for academic success, and to successfully function in a democratic society. I wanted to foster a more creative learning environment that encourages resilience, decision-making and flexibility to better prepare pupils for an ever-changing world.

In my pre-study practice, history topics were largely selected based on the class text book, of which there were three in operation, one for each class. 3<sup>rd</sup> class (9 years) used a more formal history text book while the 1<sup>st</sup> and 2<sup>nd</sup> class (7 and 8 years) used text books that incorporated history, science and geography as part of the broader Social Environmental Scientific Education curriculum, with less formal topical themes (DES, 1999). Units, such as '*schools in the past*' (DES, 1999) were merged with the three classes when they occurred simultaneously, but with three separate texts. This took a lot of pre-lesson planning and organisation. History lessons were largely teacher-led sessions that consisted of reading the text, determining main facts and reproducing these in print (handwritten or typed) with appropriate images to accompany them (selected on-line).

In 2005 I participated in a film-project "Film In Schools" (FÍS, an acronym, but also the Irish word for 'vision') that integrated aspects of e-learning into classroom work. This pilot initiative introduced film-making skills, both real-time and animation, to primary school teachers and children. Involvement in this project at the pilot level provided my school with a digital camcorder and tripod and two days in-service training for another teacher and myself. A laptop and software for editing were also purchased by the school. My early involvement

consisted of me co-ordinating film-making with older pupils (9-12 year olds), steered by their class teacher, and led me to become aware of the pupils' proficiency in using technology outside of the curriculum, regardless of their perceived traditional literacy ability within the classroom.

Pupils and parents responded favourably to FfS and at the screening of one such documentary, the parent of a child with particular literacy difficulty commented "*it's amazing how much they learn that they'd never remember if they read it in a book*" (September, 2010). This was a critical incident because it then struck me that this was an opportunity to be seized upon to create new opportunities for pupils to use technology in school; to examine, when centrally enacted as part of the history curriculum in my own classroom, the nature of pupils' literacy practices as a result of engaging in film-making. I chose animation due to its motivational interest in my pupils' age-group (7-9 years). I was also interested in exploring whether engaging in animated film-making could potentially foster creativity in me as teacher, in pedagogical terms. This ignited an aspiration to study through my own practitioner research at doctoral level. I am motivated by the potentials for engaging pupils in learning, and the potential access to the curriculum and creative teaching opportunities that this form of e-learning may afford.

A recent report indicated that Irish pupils engage in high consumer digital activities but lower than the European average use of creative and productivity-oriented activities that are linked with more sophisticated internet usage (O'Neill and Dinh, 2012). I believe that this could be addressed in my practice by engaging pupils in the design of animated films as part of the implementation of e-learning via a multiliteracies pedagogy.

Reflection through action research helped me as a practitioner to generate a "living theory of practice" (McNiff and Whitehead, 2011, p.49) to make literacy learning in history more

relevant for multi-age pupils' lifeworlds and thus more accessible. I refer to 'living theory' as the generation of explanations for what I am doing and why, based on my own practice. My pre-study literacy teaching in history did not recognise pupils' lifeworlds (out-of-school worlds) (Moll et al., 1992) and was excluding some pupils through being primarily print-based. Equally, not all pupils had equal access to technology out of school due to rural geographical location.

### **1.5 Aims of the study and research questions**

The over-arching aim of this practitioner-research is to better understand the impact of e-learning on pupils' literacy practices when it is introduced through the four components of a multiliteracies pedagogy. The study also aims to determine whether using a multiliteracies pedagogy (NLG, 2000) fosters the teacher's creativity as a pedagogue. These aims are embodied within the research questions which drive this study

- 1. What happens when a teacher uses the four components of a multiliteracies pedagogy to implement e-learning in a rural multi-age classroom in Ireland?*
- 2. What is the nature of pupils' literacy practices when the teacher implements e-learning in history?*
- 3. Does using a multiliteracies pedagogy foster the teacher's creativity (as a pedagogue)? If so, in what ways?*

I refer to pedagogue meaning the teacher, not necessarily as pedantic, but aiming to incorporate a teaching approach more reflective of a digital age, and therefore less traditional.

As far as I am aware there is no research based in an Irish classroom like mine, with its multiplicity of age and abilities, exploring the possibilities of implementing e-learning using a multiliteracies pedagogy to improve literacy practices or foster the teacher's creativity.

Therefore this thesis may have implications for future innovative e-learning practice within such classrooms, though it does not claim to be representative. This thesis will hopefully also illuminate the potential in inviting pupils to participate as researchers. I will use my findings to inform my own class and our whole-school planning for e-learning and literacy teaching

into the future. Findings will suggest directions for future research for successful e-learning and multiliteracies implementation in similar rural classrooms in Ireland and globally.

### **1.6 The structure of the thesis**

This introductory chapter is followed by a critical review of the literature that pertains to my argument for the implementation of e-learning as a central part of literacy teaching through pupils' design of animated films using a multiliteracies pedagogy. Next in Chapter three, the methodological approach adopted is described and rationale is given for choices made.

Analysis and interpretation of each data set and of findings follow this, firstly in terms of pupils' literacy practices and then the teacher's creativity, as a pedagogue. The next chapters, four and five, discuss the findings of the study, arising both from my data (Chapter four) and findings from the pupils' work - five animated films and pupil research (Chapter five). The penultimate chapter discusses the significance of findings in relation to the literature. In the final chapter (seven), the methodological contribution is discussed. Conclusions about the study's contribution to knowledge, teaching and learning are then drawn and recommendations made for practitioners and policy-makers.

## **Chapter 2 Literature Review**

### **2. Introduction**

This review of the literature offers a discussion on some of the heterogeneous set of concepts, issues and influences stimulated by a move towards introducing e-learning through multiliteracies pedagogy in a multi-age classroom. It begins by examining the conceptualisation of e-learning in primary education and the use of digital technologies, particularly film-making, in the classroom. I review the issues surrounding the effective implementation of e-learning in primary schools aimed at providing effective experiences that help pupils' acquire the literacy practices they need for success in school and their lifeworlds. I review the multimodality of e-learning and the natural links therein with the concept of multiliteracies (NLG, 2000). I evaluate its potential to stimulate innovative pedagogy as teacher creativity.

The following section examines a pedagogy of multiliteracies, with a focus on why it appears to be ideal for introducing and supporting e-learning. The final section reviews literature on teacher creativity and examines the features of creative teaching in a classroom context, thus building on the theoretical, empirical, historical and political contexts for the research that were outlined in the introductory chapter.

### **2.1 Inclusion Criteria**

Initially I conducted a broad-based search of e-learning in schools, using the OU on-line library service. Research varied in countries of origin (United States, Cyprus, Canada, Australia, Ireland, and United Kingdom) and consequentially education systems. However, the primary debates related to the integration of e-learning into the curriculum and the underpinning pedagogy; the relationship between teaching and learning. I narrowed my focus, reviewing citations and retrieving articles to explore research to help me better



understand how to integrate e-learning in my practice to improve pupils' literacy skills, while simultaneously better understanding the potential of using a multiliteracies pedagogy. Having done this, I was better placed to identify a number of frameworks and a body of literature that would potentially allow me to answer my research questions. This took into consideration e-learning and the rapidly changing digital affordances of multimodal design offered to both teachers and pupils. This acknowledged the proliferation and diversity of technological devices, coupled with increasing and ubiquitous internet access (though not necessarily so in my rural location). I evaluated research examples of how technology was used to improve literacy practice for pupils (Jewitt, 2008; Kamler and Comber, 2005; O'Rourke, 2005), and simultaneously the teacher's pedagogic creativity (Walsh, 2009, 2007).

## **2.2 Introduction to e-learning**

e-Learning, as a concept, has broad and varied definitions and focus (Abrami et al., 2006; Anderson, 2005). Each definition is tied to a particular perspective of learning in a specific context. From a socio-cultural and interactive viewpoint, empirical research in the field is predominantly focused at secondary and university levels (Beetham, et al., 2010; Granić, et al., 2009; Wahlstedt, et al., 2008; Anderson, 2005). Studies point to effectively implementing and integrating e-learning into classrooms by first examining the underpinning pedagogy (Granić et al, 2009; Mayes and de Freitas, 2004) and the relationship and interaction therein between teaching and learning (Wahlstedt, et al., 2008). Therein central implementation is deemed more effective in learning terms. Despite methodological changes in research strategies and technologies, the issues raised by successful classroom implementation of e-learning have remained constant over the past twenty years, with regard to how it impacts on learning outcomes, and findings have not changed substantially (Somekh, 2000). Twining (2009), points to the need for research that uses a mix of methods including practitioner research to address this constancy of issues regarding effective implementation.

“Oversold and Underused” (Cuban, 2003, 2001) is a seminal publication, exploring ICT implementation in Silicon Valley schools, with findings that mirror similar findings of the DES Inspectors report (2008) on e-learning implementation in Ireland. Cuban’s research reports on the level of ICT implementation in schools, where availability of technology is high but its use is infrequent and peripheral; where technology has supposedly minimally altered conventional teaching practice and styles ( DES, 2008; Cuban, 2003). Children are widely believed to be growing up as “digital natives” (Prensky, 2001) in a ubiquitous technology-based environment with film, Nintendo Dual-Screen, tablets, laptops and mobile phones, “born into an age of technology and comfortable, capable users” (DES, 2008, foreword). Building on this notion, it is argued that many teachers in rural schools generally fall into the converse category of “digital immigrants”, signposting them as ‘new’ to technology use, possibly due to the generational gap between adult (born before the advent of new technologies) and child users of technology. These phrases, coined by Prensky (2001), are often used by other educational theorists (Craft, 2011; Facer, 2011; DES, 2008; Gee, 2007) to refer to those who are new to using technology in their classrooms. Prensky’s terms are laden with meaning about teaching and learning that denote deeply held beliefs about the nature of learning. “Digital Native” implies that children are born with an innate ability to excel at the use of technology. I contest this from a socio-cultural perspective where “social practice is the primary generative phenomenon, and learning is one of its characteristics”, (Lave and Wenger, 1991a, p.34). I believe learning is essentially socially and situated interaction with the available tools of the learning environment, in this case ICTs (Facer, 2011; Wenger, 1998; Lave and Wenger, 1991a; Vygotsky 1978). Therefore, participation and interaction are vital in terms of access to and connection with the learning process (Craft, 2011; Wenger, 1998). Growing up in a ubiquitously digital world does not delineate facile use any more than growing up in a forest makes one an accomplished wood turner. The

environment potentially facilitates access to technology, and serves to situate learning, but I hold that facile use is a result of extended engagement and practice, where learners must actively engage with their environment and tools therein, in this instance ICTs, for learning to occur (Beetham et al., 2010; DES, 2008; Brown and Campione, 1994; Vygotsky, 1978). Simply having access to technology does not guarantee learning (Probert, 2009). From a socio-cultural viewpoint then, the term 'native' is misleading. Other terms such as the 'N-gen' or 'net-gen' or 'D (digital) -gen' (Tapscott, 1998) more appropriately convey the facility of this generation with 21<sup>st</sup> century technologies. I do not contest that children are facile in their use of technology. Research has shown that children are often capable of using technologies far in advance of their teachers and the technologies available (Craft, 2011; Facer, 2011; Selwyn, et al., 2009; Walsh, 2009; Hill, 2007). But it is critical to explore whether it is prolonged, active engagement that potentially enables children, as technology users, to become accomplished.

With respect to e-learning, Prensky's term "digital immigrant" has the potential to denote having no right to be a digital participant. The term often refers to a generational gap between technology users, that is, those born before the digital age (Facer, 2011). However, not all young people are expert users of technology, which is largely dependent on socio-economic factors as well as access to adequate technology. 'Newcomer' is a more salient term, and more inviting to participation with technological tools. I argue that from a socio-cultural perspective, the interaction and extended engagement with technology can lead 'newcomer' peripheral participants (often teachers) to become more central participants in the practice of technology (Lave and Wenger, 1991b). With increased creative digital usage, teachers can potentially make the curriculum more relevant for pupils, have greater access to primary documents for history resources and could potentially redesign aspects of offline curriculum into online formats to increase viewing, sharing and celebration of pupils' learning. It is

perhaps then not so much a generational issue (Facer, 2011; Gee, 2007; Cuban, 2003), but a novice/expert one (Vygotsky, 1978), which increased engagement with digital technologies can possibly overcome.

In a multi-age classroom, less experienced (often younger, always mixed ability) learners potentially learn through active engagement with more experienced learners through peer scaffolding (Bruner, 1999) moving from what they can do alone, through guided instruction, to new learning, the ‘zone of proximal development’ (Vygotsky, 1978). I intend to explore if this also holds true for the process of learning through technology across the curriculum. e-Learning is not a separate entity but, as the NCCA and Anderson posit, it is the construction and growth of knowledge and understanding through the use of ICT, learning “by, with and through ICT” (NCCA, 2007a; Anderson, 2005, p.5). e-Learning is socially situated activity, relevant to real life experiences, particularly those of youth today. This study explores whether new e-learning opportunities within a multi-age classroom, implemented through a multiliteracies pedagogy, impact on pupils’ literacy practices or teacher creativity.

### ***2.2.1 Defining e-learning in education***

Since the term was coined by Cross (2004), albeit in a corporate context, e-learning has been conceptualised widely in research literature and has varied meanings depending on the educational context and expectations for use across institutional and non-institutional settings. These include but are not limited to on-line courses, distance learning and traditional classroom on/off-line use, whether primary, secondary or university level and beyond (Abrami et al., 2006; Anderson, 2005). The e in ‘e-learning’ stands for electronic, denoting “new technologies” (Cuban, 2003, p.12) and ICTs used in the classroom. This electronic media may vary from internet, computers, web 2.0 technologies, software programmes to digital cameras, phones and printers. These technologies mirror some of the modern media

used in the e-learning guidelines for schools (NCTE, 2010). Although the technology itself can be relatively universal in Ireland, levels of local access such as broadband, amount of net-books and technologies varies, and is geographically and economically dependent (Facer, 2011; Gee, 2000).

For the purpose of this study, e-learning, both on and off-line, is viewed as *a medium* for learning and teaching, that incorporates diverse electronic media (Hadjiathanasiou, 2010; Ito et al., 2010; Selwyn, et al., 2009; Condie and Livingston, 2007; Anderson, 2005). There may be misconceptions about e-learning due to the wide variance in the interpretation of the term. Use of the term does not intend to suggest that learning through technology is different to other types of learning, simply because it is connected to technology/electronic media. e-Learning signifies the various ways technology is blended and integrated into classroom settings; essentially, the ‘digitisation’ of the classroom, “*to support interactions for learning...content, learning activities and tools and [interaction] with other people*” (Rossiter, 2002, p.1). Drawing on claims made in the literature, the term e-learning is preferable for this study because in the Irish education system, the use of technology in the classroom, whether Primary and Secondary, is referred to as ‘e-learning’ (NCTE, 2010; NCCA, 2007a). Furthermore, each school in Ireland is recommended to have an ‘e-learning plan’.

### **2.2.2 The potential of e-learning for learning**

Much research on e-learning points to two main issues 1) a need to enhance/further boost the pedagogical impact of ICT on classroom learning (DES, 2008; Twining, 2008, 2004; Abrami et al., 2006; Cuban, 2003; Somekh, 2000); 2) a need for structure to guide the impact of new technologies in schools for teaching and learning (Twining, 2004). Research conducted in Australian schools, both urban and rural, suggests that innovatively using technology in the

classroom, through acknowledging pupils' practices and experiences from home, can successfully impact on classroom teaching and learning by re-engaging and motivating disenchanted learners (Duck and Hutchinson, 2005; Maney, 2005; Peterson, 2005). These studies indicate the potential of e-learning for 'turning around' pupils who are reluctant to engage with school literacy practices (Comber and Kamler, 2005). These studies acknowledge the discrepancy between pupils' multi-modal and visual lifeworlds and the predominantly print-based literacy learning in schools (Duck and Hutchinson, 2005). Studies suggest the potential benefits of e-learning on pupils' practices in the classroom to be knowledge acquisition, higher-order thinking skills, creative reasoning and thinking strategies, skills development and reflective learning (Probert, 2009; Selwyn, et al., 2009) and increase in self-perception (Miller and Robertson, 2009). Deep, effective and lasting learning requires high levels of confidence, self-esteem and motivation (Hulme et al, 2011; Marsh and Millard, 2000). Findings from the literature suggest enacting e-learning has potential as a relevant and effective learning tool.

Presently in Ireland, an ICT framework from the NCCA (2007a) exists as a structure to guide ICT integration. It is based on pupil learning outcomes and fifteen objectives but it is overly complex, ambiguous and unsuitable for the purposes of this study. Twining's (2004) *computer practice framework* (CPF) was developed precisely to overcome the difficulty in applying such frameworks. It consists of three dimensions: *quantity*, *focus* and *mode*. Each dimension is intended to be discrete from the other. *Focus* applies to the objectives underlying computer use, such as a learning tool. *Mode* further categorises how technology is used as a learning tool, for support, to extend or transform curriculum learning, using the categories '*Curriculum tool*', '*Mathetic*' and '*Affective*'. *Curriculum tool* applies when ICT is used to develop learning in any curriculum area. *Mathetic* is derived from Greek, meaning 'disposed to learn' or 'learning by doing' (Papert, 1993) and is applied in the CPF where ICT

is used to support aspects of learning other than about ICT itself. *Affective* applies to using computers to enhance the affective aspect of learning, such as confidence and self-esteem. The *mode* dimension appears to be a useful tool to explore the role which technology plays in any observed impact on the nature of pupils' literacy practices. This also reflects the context of e-learning in my classroom, where ICT is not a subject but an integratory learning tool. Complementary, but still divergent, this study refers to 'e-learning' and 'technologies' instead of exclusively computers, as in current practice, interactive whiteboards and digital cameras are interspersed with lap-tops and net-books and the term 'technologies' is more inclusive of this.

### ***2.2.3 e-Learning's nature of knowledge and learning***

The two elements of e-learning 'electronic' and 'learning' are not dichotomous; it is important to see them as inextricably linked, as Anderson (2005) asserts. 'Electronic' denotes an inert tool and only becomes linked to 'learning' when it is actively engaged with. Thus, any definition of e-learning must turn its primary focus beyond singular technology to the latter 'learning'. This term is laden with beliefs, and is in no way neutral. Belief systems about the nature of learning underpin and direct the interpretation, influence and use of e-learning in any context (Ito et al, 2010; Abrami et al., 2006; Mayes and de Freitas, 2004). This is where contentious issues arise, central to my second research question, whether technology augments learning outcomes and activities, and thereby positively and authentically impacts on the nature of literacy practices (Buckingham, 2013, 2003; Facer, 2011), or if it is simply an add-on, propping up existing traditional teacher-centred pedagogies and traditional literacy practices, as Cuban (2003, p.179) strongly and plausibly contends. Traditionally, the teacher is seen as the expert, the pupil as novice and learning as teacher-led transmission of knowledge reproduced by passive pupils, with little or no interaction, or what Freire (1970, p.53) refers to as the 'banking system of education'.

Innovative engagement with technology involves significant shifts in roles and beliefs by both teacher and pupils. When used collaboratively and innovatively, e-learning may have the potential to provide powerful learning opportunities, not least by making the curriculum relevant to pupils' lifeworlds (Buckingham, 2013; Granić, et al., 2009; Walsh, 2009, 2007).

Teachers can be innovative in their classrooms by carefully embracing the potential of e-learning. But while technology undoubtedly provides learners with "access to vast stores of knowledge beyond the school, as well as multimedia tools to add to this store of knowledge" (UNESCO, 2004 in Anderson, 2005, p.3), to engage with this potential, what counts as valid knowledge in schools must be re-examined in terms of e-learning. The multiple modes of communication afforded by e-learning, visual (colour and size), spatial (positioning on and orientation of screen) and auditory (music and speech) are becoming increasingly recognised as valid forms of literacy. This is particularly true when they are coupled with the traditional modes of print (written text) (Buckingham, 2013; Jewitt, 2008; Unsworth, 2001). This is what has led to the notion of 'literacies' as opposed to a single literacy (Kress, 2000).

e-Learning remains only a 'potential' until it is creatively leveraged by teachers to help pupils learn or represent what they have learned through multimodal design (Buckingham, 2013; NLG, 2000) using colour and sound as well as print, and complementary multimodal practices such as moving images (Abrami et al., 2006; O'Rourke, 2005). Therefore, pedagogical *use* of digital technologies, through productive use of e-learning, rather than "technological determinism" (Buckingham, 2013; Twining, 2008, p. 561; Mayes and de Freitas, 2004; Luke, 2000, p.74) can potentially change what happens in schools and classrooms in terms of literacy practices, such as in my multi-age classroom. It is not so much about *what* technology is used, but *how* it is used in the classroom that can initiate changes in teaching and learning.



#### ***2.2.4 e-Learning and pedagogical change***

Where e-learning is concerned, having adequate technology in schools is important (Facer, 2011; Cuban, 2003, 2001) but *how* it is used and what's being done with it is more vital (Buckingham, 2013; EU Commission, 2013; Selwyn, et al., 2009; Gee, 2000). It is not enough to simply have the technology. Many e-learning studies suggest there is a definite impetus to better understand the e-learning pedagogies rather than learning about the tools (ACSA, 2008). There is a need for pedagogy to negotiate the inclusion of pupils' technology skills from out of school, incorporating a more pupil centred approach (Buckingham, 2013; Facer, 2011). Without explicit pedagogy to drive it, e-learning on its own will not enrich learning experiences (Buckingham, 2013; Zhang, 2006). Rather, e-learning practices will have the potential to manifest as an elaborate, expensive decoration, when peripherally used as a word processor, or propping up and maintaining a teacher-led curriculum and passive, superficial learning, the basis of many criticisms of ICT use in the classroom (DES, 2008; Cuban, 2001; Clark and Sugrue, 1995). If pupils critically and deliberately use e-learning practices, through multimodal design, to generate information, communicate and represent their learning and evoke audience responses through multiple modalities such as images, film and audio, e-learning has the potential to enrich pupils' learning experiences (Buckingham, 2013). This most likely requires a change from more typical teacher-centred practices to the design of a pedagogy that allows space for pupils to actively and socially engage with, and be autonomous in their own learning. The crucial issue is how to creatively harness the motivational power of e-learning in a productive way that improves literacy learning outcomes for pupils and my pedagogical practice. There is a need for pedagogical design with consistency and alignment between e-learning curriculum, teaching/learning activities and assessment practices as part of pedagogy (Buckingham, 2013; Sefton-Green, 2011; Biggs, 1999).

### *2.2.5 e-Learning meeting pupils' out-of-school worlds*

Informal out-of-school use of technologies by both teachers and pupils is becoming more common (Facer, 2011). There is however, a gap between most education systems and their pupils' lifeworlds in terms of e-learning and use of technologies in the classroom, where e-learning practices in schools lag far behind the kinds of digital literacy practices children engage in out-of-school (Buckingham, 2013; EU Commission, 2013). The role of the traditional school setting in regard to e-learning has been addressed directly by Facer (2011) in terms of more democratic pupil access to the technologies, and also in terms of the social interaction afforded within schools and the impact of this on e-learning (Selwyn, et al., 2009; Condie and Livingstone, 2007; Abrami et al., 2006). The research reviewed highlights how situating pedagogy and curriculum in an environment that requires pupils to engage in e-learning practices has the potential to harness pupils' informal out-of-school digital learning. However, to be cautious, the technologies used outside of school are rarely used in the same way as in school, for educational purposes (Bottino, et al., 2007). This needs consideration at both pedagogical and curricular levels, as this study seeks to do. The research also highlights that by including e-learning in the curriculum, pupils may have increased opportunities to draw on their out-of-school digital practices, where they are "confident, connected and actively involved" (Charles et al., 2011) from downloading, sharing and watching videos to listening to music with digital media and blogging, into the classroom context. O'Rourke (2005) argues this can be harnessed through animated film-making in history, in order to make the curriculum accessible and relevant and can potentially enhance the active involvement of pupils in their own learning. Used in this way, e-learning also presents an opportunity to draw on home-based digital literacy practices to support classroom learning (Hughes and Greenhough, 2006; Pahl and Rowsell, 2005).

Mills (2011a) suggests that schools historically reproduce social inequality with regard to allowing or preventing access to literacy and the subsequent life chances. However, schools, unlike society, can potentially offer a “democratic space” (Facer, 2011, p.55) where children can have relatively equal access to technologies and learning, regardless of age, gender, perceived ability, socio-economic background. Such democratic space is contingent upon these differences being acknowledged and provided for within the classroom context. This cannot be replicated in out-of-school worlds of pupils where social backgrounds, family values, economic situations and geographical locations automatically advantage some pupils’ access to technology over others. Electronic media may be universal, while access to it is anything but.

### **2.3 Multiliteracies and multimodality**

The term ‘multiliteracies’ refers to the multiplicity of media and communication channels, as well as linguistic and cultural diversity in contemporary society (NLG, 2000). Proponents of multiliteracies pedagogy argue it supplements rather than replaces traditional literacy that centres singularly on language (NLG, 2000). The New London Group (2000) also asserts that the term multiliteracies represents a broader definition of literacy, meaning it transcends singular, traditional print literacies to incorporate additional modes of meaning: spatial, gesture, auditory, visual and linguistics (Kress, 2000). This research highlights how effective communication in a 21<sup>st</sup> century digitally networked society requires literacy proficiency in communicating in multiple modes.

Research on literacy is now moving away from defining literacy in terms of print-only practices (Jewitt, 2008; O’Rourke, 2005; Kress, 2000). As well as multiple modes, the NLG (2000) assert multiliteracies refer to texts produced from multiple media forms- pencil to digital resources, to *interpret, communicate* and *represent* meaning in a variety of subjects across the curriculum. This is essentially e-learning, extending literacy beyond singular skills

and competences, being shaped by cultural needs, norms and access to technologies and artefacts (Luke and Freebody, 1999). Pupils need to develop the capacity to locate, evaluate and effectively use this information in diverse forms (Probert, 2009).

### ***2.3.1 Multimodal meaning-making***

In the 21<sup>st</sup> century, writing is no longer central to communication (Kress and Van Leeuwen, 2010). Writing has been augmented by visual stimuli that pervade most modern communications, using image and language (Bearne, 2003). Researchers argue pupils need more opportunities to adequately express what they know or have learned (Comber and Kamler, 2005). That is why proponents of multiliteracies argue pupils need to be encouraged to communicate in multimodal ways -through multimodal design- using multiple modes including the visual, auditory, spatial, linguistic and gestural modes (Walsh, 2009; NLG, 2000). Multimodal meaning-making requires using more than one mode to make and convey meaning. Walsh (2009) argues the visual, audio, spatial, linguistics and gesture modes can be interlinked to make meaning in many representations, particularly noticeable in electronic hypermedia and web spaces. This is known as multimodal design (Kress and Van Leeuwen, 2010; Walsh, 2009, 2007). However, modes are not to be confused with (multi) media. Media is the concrete *representation* of meaning-making and can be represented infinitely in digital or non-digital form, such as a piece of music, a drawing or a blog (Kress, 2000). Researchers argue when pupils engage in multimodal design, they make salient choices in representing what they have learned through which modes they choose to communicate (Cope and Kalantzis, 2000; NLG, 2000). There is an implication within multiliteracies pedagogy that multimodality is something that should be taught and yet, this surely assumes that pupils in the 21<sup>st</sup> century do not already have multimodal abilities? (Huijser, 2006). In my classroom, I want to examine if multiliteracies pedagogy can help pupils to leverage multiple modes, in

order to communicate what they know or have learned in more effective ways, spoken, written or through multimodal design.

Visual, spatial and oral modes are used when reading; visual and auditory when playing a piece of music and gesture, spatial, visual modes when negotiating a website. Written language in a classroom, particularly digital, is multimodal, using text, placement, spacing, sizing, colour, type-face, paper (Unsworth, 2001). Therefore potentially, all that happens in a classroom that incorporates e-learning practice requires pupils to engage in multi-modal meaning-making (Kress, 2000), particularly when it comes to pupils' literacy practices. Multimodal design, in a multiliteracies sense, incorporates two-fold use of materials (laptop, interactive whiteboard (IWB), textbooks, cameras) in the classroom, both in the teacher's pedagogic design and in pupil representations of learning as design, such as in the digitisation of texts. The NLG (2000) argue that the most effective practitioners redesign their activities in the act of practice; learning and productivity are the result of "designs of ...environments, technology, beliefs and texts" (NLG, 2000, p.20). The classroom must be afforded, in the sense of what is possible to express and represent; it must be purposefully designed and prepared for learners by the teacher, to enable pupils to create and recreate new meanings using technology (Facer, 2011; Jewitt, 2008). Therein lies the pedagogical challenge in my classroom where, on reflection, I acknowledge that print literacy practices tend to dominate history teaching.

### ***2.3.2 The potential of multiliteracies***

Researchers point out that our communication landscapes are rapidly changing (Kress and Van Leeuwen, 2010) and increasingly educators need to acknowledge the 'multiple' or multiliteracies, meaning literacy is not a finite set of linguistic skills to be learned and perfected (O'Rourke, 2005). However, certain modes gain primacy over others within schooling systems (Kress, 2000). In Western schooling, reading and writing, produced non-

digitally, dominate literacy teaching and learning (Walsh, 2009). This is evidenced by the measures of formal and standardized tests based exclusively therein (Burnard, 2011). The National Literacy Strategy in Ireland while endorsing a “learning outcomes” approach to literacy (DES, 2011, p.45) emphasising assessment of traditional skills and competences expected at regular intervals in Primary schools, also asserts that the curriculum should be meaningful and relevant to teachers and pupils. This study aims to examine the potential of a multiliteracies pedagogy to make literacy learning more relevant to pupils’ lifeworlds when used to implement e-learning.

The potential of e-learning and multimodality are empirically evidenced in terms of problem solving, creativity, decision-making and curricular learning through this medium (Selwyn, et al., 2009; Condie and Livingston, 2007; Luke, 2003). But it remains on a lower peripheral status in comparison to use of print-based standardised assessments in schools, despite compulsory standardised assessments remaining divorced from the nature of learning in many schools (Ball, 1993). Studies suggest a positive impact of e-learning on pupils’ literacy practices in terms of *social interaction* and *communication* (Lee and O’Rourke, 2006; O’Rourke, 2005). The four components of a multiliteracies pedagogy offer the chance to centrally implement e-learning. It offers me the opportunity to examine the potential for pupils to develop higher-order thinking and learning such as evaluation, analysis, reflection, decision making and problem solving while affording collaborative opportunities to generate meaning from a socio-cultural stance (Mills, 2011a; Jewitt, 2008; O’Rourke, 2005; Unsworth, 2001).

### ***2.3.3 Multimodal design and film-making***

In a multiliteracies pedagogy, texts are viewed as multimodal (NLG, 2000). They are oral, aural, visual, written, gestural, in multiple languages (Mills, 2011a; Kress and Van Leeuwen,

2010; Walsh, 2009, 2007; Jewitt, 2008, 2005; Watts, 2007; Bearne, 2003; Luke, 2003). Texts encompass books, music, film or animation, photographs, blog- an infinite list, across the literacy curriculum including history, bound by their ability to generate and convey meaning. Multiliteracies proponents view 'text' as the concrete representation, digital or otherwise, of meaning making to be *communicated* and/or *interpreted*, (Kress, 2000), through multiple modes and not confined to written words (López-Gopar, 2007). Research indicates that film-making offers pupils the opportunity to use moving images and sound as text, instead of or simultaneously with printed words to represent meaning (O'Rourke, 2005). Empirical research (IFI, 2012; Toyn, 2008) with secondary pupils and student teachers respectively, evidence film-making as a meaningful learning experience being active, constructive, collaborative, contextual, guided and motivating (Karpinnen in Toyn, 2008; Reid et al., 2002), bolstering oral and written literacy skills as well as connecting 'out of school' skills to the classroom (IFI, 2012, p.76). There is a scarcity of research on film-making implemented through the components of multiliteracies pedagogy in an Irish primary school setting, let alone a multi-age and ability setting such as mine, a gap which I hope this work will fill. Similar research, based in rural and urban schools in Australia suggests that planning and editing films, including animated film-making, as part of a multiliteracies pedagogy, can foster links between visual and traditional print literacy skills (Mills, 2011a). This intertextuality of media representations, as well as the multimodality of the literacy is very important. Through the multimodal interrelatedness of the visual, linguistic, gestural, spatial, auditory modes represented in multimedia (Unsworth, 2001), e-learning through animated film-making can be understood as a mode of literacy learning.

#### ***2.3.4 Multiliteracies pedagogy to increase pupils' participation***

Research highlights that when teachers employ the four components of a multiliteracies pedagogy, it potentially increases the participation of all pupils, because the pedagogy foregrounds social justice (Kalantzis and Cope, 2000; Newfield and Stein, 2000) as equal access to participate in learning, regardless of the diversity experienced by pupils. However, while ensuring adequate literacy is “one of the greatest achievements we can make to achieving social justice” (DES, 2011, p.5), the nature of diversity is variable and contextually dependent. Kalantzis and Cope (2000) claim that pedagogy, for inclusive and effective participation, must therefore focus on a broader approach to literacy and learning to acknowledge and make provision for ‘productive diversity’.

It is argued, a pedagogy of multiliteracies (Cope and Kalantzis, 2000), by incorporating diversity of communication modes, assists pupils in being able to communicate what they are learning in school because they are no longer bound by print-based practices (Walsh, 2007). Viewing literacy in mono-modal terms of linguistics, limited in form to printed reading and writing of texts, limits the learning potential of pupils because it excludes access to an array of multimodal meaning-making tools (Kamler and Comber, 2005). There are multiple starting points for children in a mixed ability, multi-age classroom. Drawing on the literature, I examine the potential in enacting multiliteracies pedagogy to broaden access for and participation by all pupils, regardless of linguistic affordances. This is not to suggest that print literacy is rejected or ignored. But rather, to be inclusive, literacy needs to encompass more aspects and modes of representation, from visual to spatial, gestural to auditory, through diverse media forms from paper to screen, from pen to camera or sound recorder. Empirical research incorporating ‘turn-around pedagogies’ (Comber and Kamler, 2005) evidence the benefits of a technology-infused curriculum to ‘turn around’ reluctant literacy learners and at-



risk pupils (Duck and Hutchinson, 2005; Maney, 2005; Peterson, 2005) though not in a multi-class environment, as in this study.

An aspect of diversity not encountered in the literature based on the multiliteracies and multimodal approach is that of diversity of *age* in a multi-age classroom context. This is characteristic of 45.9% of Irish classrooms (INTO, 2013), ranging from two to four class-levels in one classroom. Within this, there is a multiplicity of learning abilities and motivations. This study seeks to explore whether, within a multiliteracies pedagogy, with its aspirations of situatedness and proximal learning (Mills, 2011a), such diversity could be productively exploited.

### ***2.3.5 Introduction to multiliteracies pedagogy***

The New London Group, composed of ten international contributors, first introduced the notion of multiliteracies in 1996 as a response to literacy teaching in a rapidly changing climate of linguistic and cultural diversity as well as technological change in the 20<sup>th</sup> century. A multiliteracies pedagogy was designed to better recognise the multimodal communication systems needed for social and cultural participation in an increasingly technological society (Kress, 2000). Spanning almost two decades of research, the multiliteracies approach has been documented in literacy teaching across many settings in Australia, United States and South Africa (Walsh, 2007; O'Rourke, 2005; Newfield and Stein, 2000) and appears to work well to introduce e-learning into the classroom.

#### ***Components of a multiliteracies pedagogy***

Multiliteracies proponents claim literacy educators are better able to enact learning through the use of a multiliteracies framework when they leverage the four complex, integrated components of the theory of multiliteracies pedagogy, *situated practice*, *overt instruction*, *critical framing* and *transformed practice* (NLG, 2000). However this pedagogical theory is not intended to be linear or developmental, but all elements are incorporated and infused

throughout the enactment of a multiliteracies pedagogy, and indeed on close analysis overlap each other at times. I seek to examine the enactment of the four components of multiliteracies pedagogy in my practice to understand if this enactment could impact on pupils' literacy practices, making them more relevant to their lifeworlds and foster my own teacher creativity (NLG, 2000).

### *Situated Practice*

*Situated practice* concerns learning that is centred on pupil participation in 'real world' contextually relevant activities, in this case engaging with technologies (Mills, 2011a; Luke, 2000) which are pervasive in out-of-school worlds. It involves using and building on real-life experiences of pupils, their social, cultural, historical knowledge, thus meaning-making and learning is situated in and shaped by real-world contexts. Situating classroom learning in real-life contexts, according to O'Rourke (2005) adds a 'human dimension' to classroom literacies by also acknowledging the affective aspect of multimodal communication (music, sound-effects). Situated practice resonates strongly with the concept of creating a 3<sup>rd</sup> space (Pahl and Rowsell, 2005) in the classroom, a meeting point between home and school literacies where pupils are supported to move their literacy practices into a school domain. I sought to explore whether situating history learning within the multimodality of animated film-making, would positively impact on pupils' classroom literacy practices and my creativity as teacher. Classroom learning, it is suggested, is more meaningful and relevant to pupils when situated in their prior experiences and knowledge, from both in and out-of-school worlds (Hill, 2007). Ideas originate within a child's experience and a multiliteracies pedagogy would mean me, as teacher, 'turning around' (Comber and Kamler, 2005) my pedagogy to incorporate pupils' popular culture in my redesign of my history curriculum, to find out what they can do with technology and then what they can do with instruction. Situated learning does not mean that pupils can choose what they want and in whatever form they want, regardless of curriculum

guidelines or the teacher. The overarching goal of literacy education is equal provision of access to a broad and balanced curriculum (DES, 1999), utilizing the worlds' of pupils to lessen decontextualised, ineffective understandings.

### *Overt Instruction*

*Overt instruction* refers to the provision of explicit information to usefully guide the pupils' practice (Mills, 2011a, 2009; O'Rourke, 2005; NLG, 2000). Initially, it appears to be at odds with situated practice by reverting to teacher-led and teacher-chosen learning. However on closer analysis, overt instruction, as presented within the multiliteracies framework, differs from teacher-led transmission specifically in this way. It is more concerned with interactive pedagogy that encourages decision-making and problem-solving rather than with content-delivery (Mills, 2011a). With timely mediation from others, learning becomes possible, this socio-cultural approach being a direct contradiction to the traditional view of learning as being direct transmission and rote memorisation measured through individual attainment (Mills, 2011a). This traditional view is played out in the practice of children gaining literacy from singularly printed texts in solitary, print-based activities or even in rota-based access to computers evidenced in Irish classrooms (DES, 2008, p.113). Overt instruction potentially facilitates the learning of skills and knowledge that pupils need, so that they can become proficient at animated film-making, a component which this study explores.

The complex area of diversity in a multi-age classroom, with its many differing starting points, could potentially be mediated by appropriate and judicious overt instruction, as timely intervention and guidance (Mills, 2011a). To bridge the gap between in and out-of-school technology use, there is likely a need for overt instruction to introduce appropriate "metalanguage" (NLG, 2000) such as that associated with the use of e-learning and film-making. This study examines how this might look in my practice.

### *Critical framing*

*Critical framing* requires active involvement by pupils to become creative and critical thinkers (Hill, 2007) in sifting out useful information, what is appropriate and relevant (Craft 2011). It involves pupils critically questioning content and the realities presented to them, rather than passively accepting ideas discovered in the process of learning, something all users of technology should be engaging in (Lee and O'Rourke, 2006). The pupils in my class have access to much wider sources of information than previous generations; therefore there is arguably a need for critical literacy skills (Mills, 2011a; NLG, 2000). Pupils, it is suggested, need to critically make connections between the content of texts they consume and the social purposes of these texts (NLG, 2000). Pupils engage in critical framing to question texts and whose purposes and interests are served by them, who is the text designed for? What it does? Why? From an animation perspective, critical framing could allow pupils to analyse how images, music, movement and words are deliberately chosen to influence or affect the audience. This is potentially challenging for my young pupils who, until this study have had no experience of such criticality in their learning experiences in my classroom. O'Rourke (2005) identifies *critical framing* as a crucial dimension of pedagogy for educators whose aims are for pupils' to become *critically* engaged in e-learning, using higher order thinking (analysis) and reflective skills to develop deeper understanding of the representation and purposes of texts as opposed to simply engaging with technology.

### *Transformed practice*

The *transformed practice* aspect of a multiliteracies pedagogy can be understood as 'generative thinking' (Mills, 2011a, p.66), where new understandings and ideas are born. *Transformed practice* goes beyond merely applying or reproducing knowledge. It requires a level of innovation and creativity on the teacher's part also, that necessitates the establishment of conditions, through the other three pedagogical multiliteracies components,

for transformed practice to occur. Therein pupils can demonstrate their new learning in a new context, embedding their own goals and values (O'Rourke, 2005; NLG, 2000). Transformed practice involves transfer of meaning to a new context, but also meaning-making, where the pupils themselves are transformed by being able to do new things (NLG, 2000). The transformative dimension of a multiliteracies pedagogy, it appears, encompasses the notion that what is learned can then be used and understood in new ways and new situations and for a new audience. The focus moves from the teacher to the pupils in their successful and appropriate transfer of knowledge to a new context. Auerbach (2001) suggests that presenting traditional and transformative pedagogies, such as multiliteracies, as complementary, without due consideration of teacher/pupil power issues can be problematic. This means it is necessary to reassess the balance in traditional power that predominantly exists in schooling to include pupil perspective (Huijser, 2006).

If transformed practice is to occur, pupils must have choice, appropriate resources and the autonomy to communicate meanings or knowledge driven by their own interests (Mills, 2011). Innovative design of animated films in the classroom could potentially enable the conditions for transformed practice, recognising the importance of the presence of the prior three components to ensure this (Mills, 2011a; O'Rourke, 2005). Learning as transformation, not transmission (Gabel-Dunk, 2008; Newman, 1991) reflects the potential creative dimension of a multiliteracies pedagogy (O'Rourke, 2005).

## 2.4 Teacher creativity

### 2.4.1 Introduction

Teacher creativity arguably entails thinking flexibly, being imaginative in order to cope effectively with 21<sup>st</sup> century changes in everyday situations, and is within the reach of all (Craft, 2000; Boden, 2004, 1990). This distinguishes it clearly from creativity in the arts or the gifted possession of only a few (Sugrue, 2006a). Creativity in education is not a new concept and has been an important concept since the 19<sup>th</sup> century, from Froebel's (1837) kindergarten movement and the Montessori (1907) method right through to Csikszentmihalyi's research (1991) that links participating in creative activities with happiness (Sawyer, 2011). Creativity is difficult to define and conceptualise, especially in an education context (Craft et al., 2008; Jeffrey, 2008; Spendlow and Wyse, 2008; Banaji et al., 2006).

Empirical research further distinguishes between teaching creatively and teaching for creativity (Jeffrey and Craft, 2004). Creative teaching uses "*imaginative approaches to make learning more interesting and effective*" (NACCCE, 1999, p. 89) and is concerned with teacher effectiveness. The latter is defined as teaching that seeks to develop the pupils' own creative thinking and behaviour, foregrounding pupil agency. While this distinction is appropriate, creative teaching and pupil learning in the classroom are inextricably connected so, while engaging in creative teaching, teachers are modelling creativity (Jeffrey and Craft, 2004). In this study I explore the potential of embodying the four components of multiliteracies pedagogy to foster my own teacher creativity as 'creative teaching', and the extent to which this potentially makes classroom learning more interesting and effective (Cremin, 2009).

#### 2.4.2 Features of teacher creativity

I have identified seven features of creative teaching from my review of the literature, drawing primarily on the work of Thomson et al. (2012); Sawyer (2011); Cremin (2009); Jeffrey (2006); Sugrue (2006a); Jeffrey and Craft (2004) and Woods (1990). In the Irish curriculum, creativity is not an explicit or overt requirement and therefore creative teaching is dependent on personal professional beliefs and what the teacher (me) believes counts as teacher creativity. Through this study I seek to explore whether embedding e-learning practices through a multiliteracies pedagogy potentially fosters my teacher creativity in ways that did not exist before in my classroom. To do this, I evaluated several works that identify features of creative teaching in practice.

Woods (1990) established four features of creative teaching, *relevance*, *innovation*, *ownership*, and *control*, arguing all are interlinked. Examining the relationship between teaching creatively and teaching for creativity, Jeffrey and Craft (2004) further added to this framework by underpinning it with their '*learner inclusive approach*'. They argued teacher creativity needs to be a more collaborative approach to teaching and learning which requires the democratic inclusion of the pupils. Following this, Jeffrey (2006) led a European study in ten countries (including three Irish schools) which identified common features of creative teachers, based on Woods (1990) framework. Sawyer (2011) also pinpointed seventeen pedagogic behaviours that foster creative teaching. His research spans from Torrance (1972, 1965), who advocated intentional and explicit teaching of creativity to Craft (2005), who advocated creativity beyond the arts to extend to all subject areas. Included in these features are openness to unusual ideas/questions, modelling creativity, problem finding and idea generation, giving pupils the opportunity to think across disciplines. Many of Sawyer's features are implicit in Woods (1990) and Jeffrey and Craft's (2004) findings, such as

evaluation, trust, problem-finding, modelling creativity, question assumptions, time, sensible risks, creative collaboration and *an inclusive approach* between teachers and learners.

Thomson et al. (2012) explore ‘signature creative pedagogies’ in their research on creative teaching. Though based in schools, their research focuses primarily on artists as teachers. They identify nineteen elements that are present, though not always simultaneously, in teacher creativity. Among them, the elements of open-ended challenge, texts of our lives, valorisation of collective endeavour, making learning an occasion and flexibility in pacing are particularly relevant to and synchronous with the features of creativity. While these elements are useful, artists do not work under the same curricular expectations and responsibilities as a classroom teacher, which Thomson et al. (2012) acknowledge.

Cremin (2009) more succinctly highlights four key features of creative teaching, based on empirical classroom evidence, and at times these can be seen to encompass some of the signature creative pedagogies (Thomson, et al., 2012). Cremin (2009) examines the features of *making connections*, *originality*, *autonomy* and *curiosity* through the interplay between the three dimensions of *personal dispositions*, *pedagogical practice* and *school ethos* (Barnes et al., 2008; Grainger et al., 2006). The following creative teaching features, drawn from the works of several theorists, through the dimension of ‘*pedagogical practice*’, appear appropriate for examining my pedagogy as I enact the four components of a multiliteracies pedagogy to help examine the impact, if any, of enacting a multiliteracies pedagogy on teacher (my) creativity (Table 1).

Feature of creative teaching	Theorists
Making connections/relevance	Cremin, 2009; Jeffrey and Craft, 2004; Woods, 1990
Originality and innovation	Cremin, 2009; Jeffrey and Craft, 2004; Woods, 1990
Shared ownership	Jeffrey and Craft, 2004; Woods, 1990
Shared control	Cremin et al., 2006; Woods, 1990



<b>Improvisation</b>	Sawyer, 2004
<b>Standing back</b>	Thomson et al., 2012; Cremin, 2009; Jeffrey, 2006; Sugrue, 2006a; Jeffrey and Craft, 2004
<b>Open-ended challenge</b>	Thomson et al., 2012; Sawyer, 2011; Jeffrey, 2006

Table 1 Features of creative teaching and theorists

*Teacher creativity: Making connections and relevance*

A number of empirical studies indicate that creative teachers *make pedagogical connections* by integrating classroom knowledge with pupils lifeworlds, making links with their prior knowledge and with their out of school worlds (Cremin, 2009; Jeffrey and Craft, 2004; Woods, 1990). Making connections resonates with the Moll at al., (1992) notion of funds of knowledge, where pupils use knowledge gained from their cultural and family backgrounds to make learning more purposeful and relevant. Making connections refers to the potential to increase the relevance of the curriculum to pupils, as ‘texts of our lives’ (Fecho, 2011), and suggests that creative teaching makes the learning experience relevant to the pupils by potentially connecting the personal, emotional and academic. Sawyer (2004) argues creative teachers are knowledgeable professionals, who may, Sugrue (2006a) asserts, engage in ‘crow’s nest teaching’, which encompasses taking a panoramic view of the learning situation, responsively connecting pupils, their needs and their dispositions to delivering the curriculum; making classroom teaching connected and relevant to pupils’ lifeworlds.

*Teacher creativity: Originality and innovation*

Creative teachers are *original and innovative* in experimenting with resources (Cremin, 2009) such as using technology to make teaching and learning more relevant to pupils’ lifeworlds. Innovation involves introducing a new element into a prevailing situation (Jeffrey, 2006). Because I introduced animated film-making into the classroom via a multiliteracies pedagogy, I want to ascertain if this is a quality of creative teaching. Creative teachers are

arguably flexible and innovative in practice by adapting teaching sessions depending on pupils' interest and needs at any given time. They shift the focus of the curriculum and/or the teaching approach in response to pupils' needs and are prepared to take risks and act as learners alongside their pupils, as well as being open to new ideas (Cremin, 2009; Sawyer, 2004). Creative teachers, through combining autonomy, curiosity and making connections, potentially lead to innovative and original practice by making use of artefacts, use of body, moving out of the classroom and making learning an 'occasion' in their readiness to celebrate and appreciate learning (Thomson et al., 2012, p.40).

The teacher's originality in the design of relevant learning tasks can potentially encourage pupils to also act innovatively. From this perspective, it can be argued that teachers are modelling creativity by engaging in creative, innovative behaviours, thus encouraging pupils to do the same (Sawyer, 2011). This is not to assert that teacher creativity can be made routine by planning it. Opportunities to share control and responsibility with pupils likely present themselves spontaneously throughout the day, unplanned. However a 'learner inclusive approach' (Jeffrey and Craft, 2004) by the teacher, where pupils are included in the decisions made and where their contributions and evaluations are valued, appears to be an important element to enhance creative teaching. The innovative introduction of e-learning, via the multiliteracies pedagogy in this study seeks to examine the potential of the design of animated films to create a space in the classroom for fostering curiosity and experimentation through playfulness (Cremin, 2009).

#### *Teacher creativity: Shared ownership*

Research indicates that creative teachers *share ownership* of newly designed learning tasks or innovations they introduce into their classroom situation (Jeffrey, 2006). Rather than a teacher-led transmission of pre-determined knowledge, creative teachers, it is argued, explicitly encourage pupils to generate questions, fostering an environment of enquiry and

thinking, rather than an accept-all notion of learning. Such creative teaching requires pupils to co-participate by formulating and solving problems, guided by questioning, using a range of resources such as technologies, books, discussion. The creative teacher, it is suggested, flexibly designs tasks and spaces that share responsibility for learning with pupils and thus pupil ownership of learning likely increases.

Design of learning tasks potentially facilitates shared ownership of the curriculum both for teachers and pupils. The revised Irish primary curriculum (DES, 1999) is not prescribed and therefore allows for a breadth of creative opportunities for teachers, to increase teacher and pupil ownership of the curriculum, by designing learning tasks that are relevant to pupils' own lifeworlds. Within this design there is also potential to incorporate other features of creative teacher practice noted in the literature, including *autonomy* and *originality* (Cremin, 2009). Pupil design and production of animated films potentially facilitates ownership by connecting with pupils' out of school practices and interests to better understand history (Craft 2011; Marsh, 2005; Pahl and Rowsell, 2005).

Because e-learning potentially makes teaching and learning relevant to pupils' lifeworlds, pupil ownership of this learning can be encouraged by the teacher (Jeffrey and Craft, 2004). Ownership of learning occurs in connection with the sharing of control and responsibility for learning tasks with the pupils, such as working collaboratively in mixed-age and ability peer groups. Like control, ownership requires a shift in the power structure of standard classrooms, or from instructionism (Papert, 1993) with teacher as central. This links closely with the concept of *autonomy* in creative teaching (Cremin, 2009; Sawyer, 2004).

#### *Teacher creativity: Shared control*

Linked to shared ownership, it is argued that creative teachers have autonomy and are in control of the new innovations they implement (Jeffrey, 2006). They expect pupils to take control of their learning and focus on autonomy. Creative teachers, research suggests, design

tasks that inherently demonstrate trust in and respect for pupils' own ideas (Chappell, 2008; Jeffrey, 2006; Sugrue, 2006a), which pupils must organise for themselves, thus extending possibilities for pupil collaboration. This requires a significant shift in the power structure of a traditional teacher-led classroom and has implications for both teacher and pupils' interactions.

Shared control refers to the degree to which the teacher stands back and foregrounds pupil responsibility and participation. Chappell (2007, p. 51) in her work on teacher creativity, preferences the term 'responsibility' instead of 'control' due to the implications of the teacher always being in control and the associated power structures. However, 'shared control' is a pertinent term as pupils need to feel they can take risks and be encouraged to experiment through exploration and play (Cremin et al., 2006) while still being guided by their teachers.

Empirical studies suggest that creative teaching necessitates sharing control rather than exclusively handing over responsibility to pupils (Chappell, 2007). It doesn't mean that teachers abdicate their responsibility or that pupils can simply do whatever they like.

However shared control is not without its problems. There is complexity and some overlap.

There is also an apparent paradox between the need for instruction and the generation of pupils' own knowledge, which Bonawitz et al. (2011) identify as the 'double-edged sword of pedagogy'. The necessary shift in power relations essential to foster pupil autonomy and shared ownership (Cremin, 2009) potentially increases tensions between structure and autonomy. This tension may arise between the degrees of learning from helpful informative others, and pupils' own curiosity (Bonawitz et al, 2011; Chappell, 2007; Sugrue, 2006a; Sawyer, 2004). Some claim this could potentially be addressed by an element of standing back by the teacher, an invisible pedagogy, to allow the pupil role to transform into a more central and agentive learner (Cremin et al., 2006; Newman, 1991). Sharing control of tasks

potentially builds resilience and encourages teachers to take risks (Sawyer, 2011, 2004; Cremin, 2009) through pupils taking and sharing responsibility, even if the task does not work as planned.

#### *Teacher creativity: Improvisation*

The notion of creative teaching as *improvisation* is how Sawyer (2011, 2004) draws together the flexibility and responsiveness needed in effective teaching. Classrooms are ever-changing, complex and at times unpredictable places. Creativity is often characterised by flexibility of time and space such as varying the pace or amount of time spent on a project (Thomson et al., 2012; Sawyer, 2011; Chappell, 2008; Sugrue, 2006a). Effective creative teachers, Sawyer (2004) argues, have good knowledge of and are able to interact with and respond to pupils individually, exercising professional judgement. Creative teaching is often referred to as performance (Pineau, 1994 in Sawyer, 2004; McLaren, 1986). However the notion of teacher as performer reduces the role of the teacher to an individualistic actor and potentially limits pupil role and control to passive and teacher as central. Sawyer (2004, pp. 12-13) critiques this notion, though not in an e-learning context, in his more fitting conception of creative teaching as ‘improvisational performance’ emphasising the *‘interactional and responsive creativity of a teacher working together with a unique group of students’*. He thus acknowledges the complex, emergent and mutable nature of classroom practice while critiquing the metaphor of teacher as performer, emphasising the flexibility of creative teaching. From a socioculturalist standpoint this can be related to a multi-age primary classroom, where the flow of the class emerges from interactions between all participants, teacher and pupils. These interactions are not predetermined, but unpredictable and dependent on the many multiple realities encountered in the classroom with respect to, among other factors, gender, power, disability, race, ethnicity (Walsh, 2007).

### *Teacher creativity: Standing back*

Many empirical studies on creative teaching (Thomson et al., 2012; Cremin, 2009; Jeffrey, 2006; Sugrue, 2006a; Jeffrey and Craft, 2004) emphasise a more pupil-inclusive and less teacher-centred approach, which entails the teacher *standing back*. This means the teacher standing back from being always actively involved and becoming more observant and reflective, thus creating space for pupils to participate more actively (Jeffrey and Craft, 2004). Sawyer (2004) claims the teacher is knowledgeable about pupils, and the active participation of both teacher and pupils and flexible responsiveness of the teacher allows the teacher's creativity to flourish in the classroom.

While fun may often be a valued by-product, it is not the main pedagogical goal while using technologies. The goal of a teacher is to facilitate deep understanding, meaning-making (Bereiter, 2002) and engagement of all pupils with equal access to the curriculum (NLG, 2000). Relatedly, though not specifically referring to teacher creativity, in his model of 'enterprise learning', Smith (1984) notes the obligation for 'no status' with regard to effective relationships between teacher and pupil. This is a departure from traditional power relations in Irish classrooms, where often pupils' input is accepted or rejected primarily by the teacher (Sugrue, 2006a). This resonates with the creative pedagogical potential of multiliteracies when implementing e-learning. The relationship need not be static but needs agility, where the creative teacher's role lessens as he/she stands back and the pupils' role increases, as they become more active (Chappell, 2008; Cremin et al., 2006). As the teacher guides the process with inclusive shared control, multi-age and mixed-ability pupils may actively engage in collaborative e-learning activities, they potentially move from being "novice" to "expert" (Vygotsky, 1978) through peer-scaffolding to co-construct knowledge together. This valorisation of the collective endeavour (Thomson et al., 2012, p. 43) acknowledges teaching and learning as collective accomplishment, with the emphasis on inclusive pupil participation by a lessening teacher role.

### *Teacher creativity: Open-ended challenge*

The use of *open-ended challenge* is, research evidence suggests, part of the repertoire of pedagogic teacher creativity (Thomson et al., 2012; Jeffrey, 2006), where rather than pre-specified transmitted learning outcomes, the learning is more a process than a product.

Standards are applied collectively (teacher and pupils) (Sawyer, 2011) with the expectation that pupils use discrimination and judgement, embodying intrinsic evaluation through considering possibilities and a questioning stance (Cremin, 2009) which potentially instils criticality.

Opening a space for pupils to question what they include and why, as they work through the e-learning process of making animated films, has the potential to transform not only the content of the history curriculum but classroom interactions. The combination of an open challenge and the critical framing component of the multiliteracies pedagogy have been shown to be impactful (Craft, 2011; Walsh, 2009; Kwek et al, 2007; Gee, 2000).

Assessment, though not isolated as a separate entity of creative pedagogy in the literature on creative teaching, is an inextricable component of classroom pedagogy. Sawyer (2011) and other scholars refer to evaluation as a creative behaviour, where is a strong need for consistency between the form of evaluation and the task itself (Burnard, 2011; Sawyer, 2011; Sefton-Green, 2011; Biggs, 1999). This poses a challenge to be creative in encompassing the diverse aspects of learning in a context where traditional summative teacher-centred assessment is the norm, as in Ireland. Where e-learning and multiliteracies are centralised, with the expectation of a more autonomous pupil role and a less transmissive teaching role, traditional summative testing such as closed questions in teacher-designed print-based tests are not likely to appropriately assess all the learning that takes place. The form of evaluation necessitates being situated within different power relations than within more traditional testing. This study seeks to explore whether animated film-making (as a form of e-learning) enacted through the components of a multiliteracies pedagogy, can foster the teacher

creativity of ‘*open-ended challenge*’, where beyond the initial directions on how to make a film, the learning task is open-ended and achievable through collaborative effort, with no definitive right or wrong.

## **2.5 Synthesis of e-learning, multiliteracies and creative teaching**

### **2.5.1. e-Learning**

Predominant arguments in the literature on effective implementation of e-learning, globally and locally, point to the need for appropriate and judicious pedagogical consideration (Buckingham, 2013; Diamond and Irwin, 2013; DES, 2008; Twining, 2008). Adequately resourcing schools is not sufficient to maximise the learning potential of pupils in the 21<sup>st</sup> century. e-Learning can be empowering in the classroom especially if it is used wisely (Craft, 2013; Walsh, 2007; Marsh, 2005). This means pupils and teachers using technologies to their fullest potential so that pupils can become engaged, confident, self-determined learners. e-Learning can also be viewed with scepticism with regards to its potential to positively impact on classroom learning (Cuban, 2003; Clark and Sugrue, 1995). Such perceptions are often determined by the kind of use that is made of technology by children and youth, from consumers, such as in on-line entertainment, to the less prevalent, creative and productive role of users (O’Neill and Dinh, 2012). These perceptions can, in turn, influence the access children have to technology. The expansion of the literacy repertoire beyond the single literacy of mono-modal print appears to suit the implementation of e-learning in a classroom (Walsh, 2009; Jewitt, 2008; NLG, 2000).

### **2.5.2 Multiliteracies**

A multiliteracies approach recognises the need for multiple literacies rather than a single narrow interpretation of literacy, in order to meet the learning needs of pupils in the 21<sup>st</sup> century (NLG, 2000). Literacy that encompasses a multimodal approach (Kress, 2000) beyond reading and writing words, reaches across cultural and linguistic (and spoken and



written) boundaries, because it acknowledges pupils are living in and making sense of their own worlds (Marsh, 2005; O'Rourke, 2005). The social, economic and technological changes and inequities implied therein resonate with a classroom context. Coupled with the integratory approach of technology as e-learning infused throughout the curriculum as a mode of learning, multiliteracies pedagogy corresponds to my aspiration of providing a "broad and balanced curriculum" (DES, 1999, p.10). A multiliteracies pedagogy thus recognises diverse forms of literacy practices, and encourages transformed practice through the use of technologies, where pupils can demonstrate their learning in new contexts (Walsh, 2007; O'Rourke, 2005).

### ***2.5.2 Creative teaching***

Creative teaching involves teachers acting and thinking flexibly in order to be effective (Craft, 2000). Empirical classroom research by Thomson et al. (2012); Sawyer (2011); Cremin (2009); Sugrue (2006a) and Jeffrey and Craft (2004) has identified prominent pedagogical features of creative teaching, also indicating that it is within the capability of all teachers. Based on research by Mills (2011a); Walsh (2009); Jewitt (2008); O'Rourke (2005); Unsworth (2001) and Kress (2000), technology offers possibilities, through the social and collaborative learning opportunities of the multiliteracies pedagogy, for teachers to creatively design the curriculum and teaching practices.

## **2.6 Summary**

Driven by my research questions, I reviewed and explored the relevant literature on e-learning, multiliteracies and teacher creativity. Therein I identified the issues that I wanted to explore with regard to how best to introduce new e-learning practices into my multi-age primary classroom, their subsequent impact on pupils' literacy practices and the influence on my (teacher) creativity in the classroom. Reviewing the literature across these primary focal

points for my practitioner-research also guided my choice of method: action research and pupils participating as researchers, which I discuss in Chapter 3.

## Chapter 3 Methodology

### 3.1 Introduction

This chapter revisits the research questions driving my study presented in the introduction chapter, situating them within my conceptual framework. I also outline the epistemological perspective taken. I then explain and justify the mixed methods approach and rationale for my study, which incorporates action research and engaging pupils as researchers. I outline the research design and its appropriateness to answer my research questions. I describe the setting, participants and procedure for my classroom-based study along with ethics and the methods of data collection. Finally I outline the data analysis I adopted.

### 3.2 Research questions and conceptual framework

The following questions led my research:

1. *What happens when a teacher uses the four components of a multiliteracies pedagogy to implement e-learning in a rural multi-age classroom in Ireland?*
2. *What is the nature of pupils' literacy practices when the teacher implements e-learning in history?*
3. *Does using a multiliteracies pedagogy foster the teacher's creativity (as a pedagogue)? If so, in what ways?*

The choices of action research and inviting pupils to be researchers were the most appropriate methods to help me answer my research questions. I take a social constructivist epistemological stance (Vygotsky, 1978) where through interaction with one another, the teacher and the environment, pupils create knowledge and meaning. Active learning, collaboration and reflection are part of the design process from a social constructivist viewpoint. Action research, as a form of self-enquiry, helped me better understand my classroom practice, through critical reflection. The action research cycle helped me to examine the nature of pupils' literacy practices, and the extent to which the newly implemented e-learning practices and the components of a multiliteracies pedagogy helped

foster my creativity to respond to changes in society, expanding their communicative repertoire.

I followed two typical cycles of action research, drawing on similar studies (Lotherington, 2007; Nixon, 2007; Walsh 2007), because I wanted to improve teaching and learning in my classroom by making pupils' literacy practices more relevant to their lifeworlds, through reflection-in-action (Schon, 1983). This reflexive approach allowed me to reflect on my practice and better understand the literacy practices of my pupils as a result of introducing e-learning through a multiliteracies pedagogy. Action research is the antithesis of a positivist, one-off experiment exploring cause-effect, because it is an observed, on-going reflection on action I take to improve learning in my classroom, thus having a more enduring influence on my practice (Walsh and Kamler, 2013). While a case-study approach shares this recognition of research based in 'real context' from a socioculturalist perspective, action research provided the degree of reflexivity needed to reflect on my teaching as well as the literacy practices of my pupils. Unlike case-study, this research is conscious action, taken by me, to more centrally implement e-learning in my classroom and to critically reflect on the impact of this on teaching and learning.

The spirit of action research is to enquire about issues *pertinent to the practitioner* in an informed and critical way, in order to improve his/her *own practice* through reflective action, appropriate for this classroom-based research (McNiff and Whitehead, 2011; Somekh, 2006).

I believe the action research cycles incorporated ways to access and explore the different experiences of me as teacher and my pupils as I sought to implement e-learning via a multiliteracies pedagogy.

In action research, collaboration, rather than power, between the innovator (me as teacher) and those for whom the innovation is intended (my pupils), is essential in effecting change

(Warrican, 2006). In my classroom context I believed it was extremely relevant and important to allow pupil voice to be heard alongside mine as researchers. I invited pupils to be researchers on this study because I believed their research could help me answer my research questions and better understand the learning and teaching opportunities made possible by implementing e-learning through the four components of a multiliteracies pedagogy. This allowed pupils to have ownership of their own learning and to allow their ideas about e-learning to have authenticity and relevance. This perspective is rooted in the notion of children as capable social actors (Malone, 2006a). An increasing number of researchers acknowledge that empowering children to voice their perspectives about issues that concern them, such as engaging in e-learning in the classroom, is not only insightful, authentic and unique but it is also their right and entitlement (Lundy et al., 2011; Thomson, 2008; Kellett et al., 2004). However, the level of influence by teachers on young pupils carrying out such research is unclear.

Since the 1990s children's voice has been harnessed in research through a number of practices. These vary from informed consent, the right to withdraw from participation, to interviews and various forms of narrative (Thomson, 2008; Malone, 2006a); research 'on' and 'with' young people (Malone, 2006a, 2006b). However, research 'by' children, such as inviting pupils to be researchers, advocates action and change, and directly relates to the notion of children as active participants. Despite such research becoming a growing tradition in Australia and the UK (Clark, 2010; Thomson, 2008) it is an area that is largely un-researched and under-used in an Irish context and findings of this study will be of significance in this regard.

This is not to inflate the importance of the pupil perspective or to subvert adult perspective for children's (Thomson and Gunter, 2007). Theirs is a partial story, part of the multiple realities in my classroom, and it also posed an opportunity for triangulation of methods, to

add validation to findings (Cohen et al., 2007). Pupil research being cultural and situated within their experience, rather than my interpretation of their experience, is an authentic perspective.

### **3.3 Methods**

This section outlines the methods used to collect data in my study, action research and pupils as researchers. It outlines the appropriateness of the cycles of action research to answer my research questions. This is followed by the rationale for inviting pupils to research alongside me.

#### ***3.3.1 Action Research***

My interest in choosing action research for my study was to change and transform my practice by implementing e-learning through enacting the four components of a multiliteracies pedagogy. I wanted to explore whether e-learning's new digital literacy practices would provide increased opportunities to improve pupils' literacy practices by making them more relevant to their lifeworlds and at the same time foster the teacher's (my own) creativity.

Action research, carried out in my own classroom, helped me to make sense of my teaching and pupils' literacy practices through critical reflection, evaluation and action as I implemented e-learning in a new way. The cycles of action research helped me to consider the possibilities inherent in the four components of a multiliteracies pedagogy to engage pupils in e-learning, appraise the quality of my practice and evaluate my implementation of e-learning against existing theories in the literature. I learned in, through and from this reflective action so that I feel I know more now about what I am doing in my history curriculum and why - and I am still learning (McNiff & Whitehead, 2011).

Action research can be described as an alignment between my professional values as a practitioner and my classroom practice in action (McNiff and Whitehead, 2011; Lomax, 1994). The insider and critically framed nature of action research demanded an on-going appraisal of my teaching and pupils' literacy practices within my classroom. The well-researched action-reflection cycle consists of observation, reflection, action, evaluation, modification and moving in new directions and is never at a standstill, (McNiff and Whitehead, 2011; Koshy, 2010). It is a spiralling process (McNiff and Whitehead, 2011; Kemmis, 1988) where understandings evolve as a result of reflection and action, rather than other research processes that are complete and aim for closure.

My action research was underpinned and informed by multiliteracies theory and this theory was then transformed through my reflection on actions undertaken, theory and practice being inextricably linked (Elliot, 2004, 1993; Habermas, 1974, 1973). Rather than a hypothesis, my action research followed an idea that implementing e-learning through using digital technologies as a new approach in my classroom, through a multiliteracies pedagogy, could impact positively on my pupils' literacy practices and foster my creativity, as a pedagogue, and so the cyclical process evolved, refining both theory and practice.

Learning in every situation is interactive and actively constructed, not passively transmitted, reflecting on existing knowledge to make sense of new knowledge (Schon, 1995, 1983), all of this being culturally and contextually situated. Through evaluative reflection, I hoped to offer explanations for my own practice, how this action influenced my pupils through their participation in my classroom and ultimately if this led to transformed practice. Pupils acting as researchers potentially add to my action research cycle by constructing their own experience of the impact of e-learning practices on them and their peers.

### *Action research and authenticity*

Criticisms of action research are often levelled at it as being too contextually dependent (Cohen et al., 2007; Somekh 2006). This research is based on my practice and relevant to me. This research doesn't claim to be representative of or generalizable to all rural primary classrooms, but findings can be relayed to other teachers who can interpret them and intuitively relate them to their own situation and contexts (Somekh, 2006). While the findings are specific to me and my context, my situation at this given time, with our present understandings and pupils, the tasks are capable of being reproduced. There is no absolute truth to be established or applied universally (Elliot, 1993; Arendt, 1978; Habermas, 1974); instead there are multiple realities.

Although it lacks the objectivity of positivism, action research in my classroom has credibility, transferability and dependability (Cohen et al., 2007; Guba and Lincoln, 1981). Critical questioning and reflection, internally formed, were crucial to this process, rooted in the experience of myself as practitioner. I used action research to collect and critically analyse data and provide a "thick description" (Guba and Lincoln, 1981) of what happened in my classroom with regard to my pupils' literacy practices and teacher's (my own) creativity when I implemented e-learning through the four components of a multiliteracies pedagogy. This authentic data is evidence of knowledge, learning and theory generation.

Central to action research is critical action, action as a result of reflection (Cohen et al., 2007). But rather than solely observing, interpreting and offering explanations, such as in case study, action research demands action that challenges, to interrupt and change situations rather than simply understand them. It requires participatory intentional action or learning by doing (Carr and Kemmis, 1986; Dewey, 1973), leading to change. It provides the impetus for a 'quiet revolution' (Craft, 2012, p. 182) in education, an opportunity to channel my capacity as practitioner and my pupils, to *locally* co-construct new and imaginable education futures that incorporate e-learning, which is in stark contrast with the large-scale revolution that



Cuban (2003) sought. In this instance animated film-making, through the implementation of a multiliteracies pedagogy in history, can challenge traditional assumptions about literacy and learning in my classroom, to help my pupils and myself to recognise literacy beyond monomodal print.

### ***3.3.2 Pupils as researchers***

I am an outsider with regard to my pupils' experience in the classroom (Hellawell, 2006) in that I can only observe their participation but not fully understand their experiences.

Thus, I invited pupils to participate as researchers in my study because I believe it is imperative to listen to the voice of pupils in order to authentically explore and offer explanations for the impact of my actions, such as on the nature of pupils' literacy practices. This helped overcome potentially "distorted self-understandings" if I singularly researched our classroom (Kemmis, 1988, pp.172, 176). Classroom practice is essentially a social and collaborative process. Therefore my explanations and evidence, generated from data collected in-situ as the classroom process took place, such as video recordings of classroom actions, conversations and interactions were not singularly sufficient to explain my pupils' experience of e-learning or their response as I introduced the components of multiliteracies pedagogy. In Cycle 1, pupils were singularly afforded an opportunity to voice their experience through teacher-conducted interviews. I modified my approach in Cycle 2, by involving pupils as researchers as I wanted to harness their authentic voice to better answer my second research question concerning pupils' own literacy practices, where they could survey or interview their peers, thus allowing pupil perspectives to be centralised. "Such an investigation...allows them to speak about the views of all students, rather than simply giving their own opinions", (Thomson, 2008, p.7).

### *Pupils as competent researchers*

Age often delimits pupils as active researchers (Kellett et al., 2004) as assumptions are made in regard to the capability of children according to their age. Pupil competence is related to their experience, which is likely a more reliable indicator of competence than age; for example a nine year old who uses a tablet every day will be more competent in its use than an adult who rarely has that experience. Therefore there was a need to enable the classroom to allow for development of research and analysis skills needed (Lundy et al., 2011; Thomson, 2008; Malone, 2006a) if my 9 year-old pupils were to become researchers. Despite the growing body of research on pupil researchers, none of these studies indicate the level of teacher input required to prepare pupils to be researchers in a practitioner-research context such as mine. Studies reviewed (Lundy et al., 2011; Thomson, 2008; Malone, 2006a; Kellett et al., 2004) were conducted by external researchers working alongside pupils in the classroom rather than practitioner research.

Pupils participating in this study as researchers represent a potentially powerful opportunity to enable pupils to be truly regarded as partners in their education. Having the opportunity to work alongside me as researchers, pupils can see the value of their voice in this classroom-based study. The revised Irish curriculum (DES, 1999) espouses children as actors in their own right, where they are one of the partners of education, having the right to have a say in their learning and assessment in school.

Power relations between me as class teacher and my pupils as researchers could potentially be problematic (Lundy et al., 2011; Clark, 2010; Gunter and Thomson, 2007). Teachers are the main and expected power brokers in schools, controlling everything from use of time-start and finish, break time, lunchtime, to control of what's done in that time (Kellett et al., 2004). I needed to negotiate a turn-around (Comber and Kamler, 2005) where pupils were

expected to share the power, as researchers, which involved an adoption of power by pupils and a relinquishing of power by me.

### **3.4 Research Strategy**

This study included two cycles of action research. The cycles followed the stages of action research commonly described in the literature:

1. Observing my classroom practice;
2. Reflection on how practice could be improved;
3. Taking action by implementing e-learning via a multiliteracies pedagogy;
4. Critically evaluating what was done through gathering evidence;
5. Modification of my practice in light of evaluation of the impact of change; and
6. Moving in new directions (McNiff and Whitehead, 2011; Carr and Kemmis, 1986).

Action research also allowed me to study, in order to better understand how using the four components of multiliteracies pedagogy, *situated learning*, *overt instruction*, *critical framing* and *transformed practice* (NLG, 2000) would impact on the nature of my pupils' literacy practices as they engaged in e-learning as diversity of print and digital literacy practices. This implementation worked well within a cycle of action research, particularly in my classroom, in allowing me to evaluate its impact on e-learning. Situated learning and critical framing assisted with the action research cyclical process of observation, reflection, action, evaluation, modified action (McNiff and Whitehead, 2011; Cohen et al, 2007) in helping me to ascertain the extent to which pupils engaged in transformed literacy practices, if any. Through overt instruction (NLG, 2000) I taught the pupils how to conduct research. It also provided space in my classroom to introduce and teach new e-learning practices, specifically animated film-making.

The following table (2) illustrates the data collection strategies of each method employed and how they relate to the research questions.

Research questions	Data collection	Data collection
	Teacher	Pupils
What happens when a teacher uses the four components of a multiliteracies pedagogy to implement e-learning in a rural multi-age classroom in Ireland?	Critical incidents 1-4	Photo Story based on 27 selected photographs 25 peer-interviews Diary notes
What is the nature of pupils' literacy practices when the teacher implements e-learning in history?	Critical incidents 5-7 25 pupil interviews 5 animated films	25 peer-interviews
Does using a multiliteracies pedagogy foster the teacher's creativity (as a pedagogue)? If so, in what ways?	Video-recording of classroom practice Reflective diary	

Table 2 Research questions and data collection

3.4.2 Action research cycles

This study was carried out over two cycles of action research. My reflections on classroom interactions and practices during the actions of the first cycle, my pilot study, in implementing e-learning through the four components of a multiliteracies pedagogy, informed and helped me modify my actions in the second cycle. In the first cycle of action research, I took action and implemented e-learning to give all pupils an opportunity to use multiple modes to express their curricular learning in history by engaging them in animated film making. Drawing on my pre-action observation and reflection I hoped this would make teaching and learning more relevant to my pupils' lifeworlds and the practices emerging from their virtual schoolbags (Thomson, 2002). The phases of observation, reflection, action, evaluation and modification are presented in tables 3 (a) and (b) below. Both improvement of practice and the spiral of cycles reflect what Carr and Kemmis (1986, p.165) describe as

‘conditional requirements’ of action research. I begin by offering a vignette to give context to my pre-study practice.

*Pre-study practice vignette (November 2011)*

Anne began her history lesson by first asking pupils what they already knew about life in Ireland during the 2<sup>nd</sup> World War. As usual more vocal pupils Michael and Dermot had their hands up hoping to be called. Anne paused and waited for more pupils to raise their hands. She called on Martina who said “there was no fuel” and wrote her response on the interactive whiteboard. Following two more responses “people hadn’t much to eat” and “Ireland wasn’t in the war”, Anne called on Anna, a fluent reader, to read the class text, while the rest of the class followed it in their books. Dermot, Michael, Áine and Emma, all fluent readers, were called on to read a section in turn. Anne then asked the class to write down five main points of information from the text in their history copies. After five minutes of working quietly Anne noticed Sara had not written more than the heading “World War 2” and the first fact on the interactive board (not from the book). Although Sara said she was managing when Anne asked if she needed help, Anne could see she was not reading the text so she suggested Sara work with Anna, seated beside her. Anna reluctantly began to re-read the text with Sara---Anna already had three facts done. Pupils wrote selected facts into their copies. During the next history lesson they typed these up on laptops and added pictures selected on-line. These were printed and put together as a fact book. Assessment consisted of a written paper at the end of the topic work, consisting of multiple-choice questions and closed questions.

This vignette characterises pupils’ pre-study literacy practices and my teaching in history as *highly-structured, teacher-led, individualised learning, scripted* (by text book) with *pre-determined outcomes*. Although it was differentiated for individual pupils’ needs, all groupings were within the same-class; there were no mixed-age working groups. Before I began this study, pupils’ literacy practices in my history classroom tended to be print-based. I emphasised the history text-book as the primary source of information and representation of learning. There were three separate history books, one for each class level, with the younger two levels’ history programme incorporated into the wider curriculum area of social, environmental and scientific education. Pupils often worked on separate history topics at any one time, as the 3<sup>rd</sup> class history curriculum is more formal than that of 1<sup>st</sup> and 2<sup>nd</sup> class. Co-

ordinating three programmes was time-consuming and left little opportunity for flexibility in my teaching. Although I incorporated digital resources too, they were more as peripheral sources to decorate text-book learning through presentation rather than generation of new learning. Factual knowledge was garnered through reading and discussion of the class texts, while technology was used to print up facts and pictures for classroom display. Although pupils were not entirely passive, they were not centrally active in discovering information. Wanting to change that, I introduced the four components of multiliteracies pedagogy into my classroom over 43 teaching sessions. I wanted pupils to become more active in constructing meaning. This meant a change in my teaching approach, involving how I presented and designed curriculum materials. It also necessitated creating and supporting more opportunities for greater social interaction between pupils.

Cycle 1 (Pilot)	Activity
1. Observe  April 2011	I observed pupils have digital literacy practices, largely out-of-school that were not acknowledged in my history curriculum. I also observed my predominantly traditional print-based literacies approach, which primarily focused on the class text book, with peripheral use of ICT, in my history curriculum was not engaging all pupils. There was less use of e-learning practices and the elements of multiliteracies. These observations led me to my first research questions.
2. Reflect/ Research Questions  May-Dec 2011	Being aware of pupils' use of technologies out-of-school coupled with the onus on Irish schools to implement technology more centrally (DES, 2008) I wanted to see if centrally incorporating the use of e-learning and digital technologies would positively impact on pupil literacy practices in history, be inclusive of all ages and abilities (in my context) and at the same time foster my own (teacher) creativity. I believed this could also

	facilitate the integration of literacy instruction into my history curriculum (DES, 2011).
<b>3. Act</b>  <b>Jan-Feb 2012</b>	This led me to introduce the four components of a multiliteracies pedagogy, situated practice, overt instruction, critical framing and transformed practice (NLG, 2000) into my history teaching. Additionally I required pupils to engage in multimodal design by collaborating in mixed ability, gender and mixed-age groups to make an animated film, in a pilot study. I introduced e-learning practices in history by teaching pupils how to make animated films through overt instruction. I used situated learning by centring the animations on a story from their Grandparents' time. I collected data by video-recording both myself and six pupils working in whole-class and small groups while engaged in a project on researching their family members' experiences of schools (in the past) which we named "School Cartoonz".
<b>4. Evaluate</b>  <b>March 2012</b>	I observed my actions and interactions with the pupils and their actions and interactions with each other at each stage of the initial pilot study and focused on just one group of six pupils. I analysed the collected data (transcripts, interviews, reflective field-notes and multimodal artefacts-the animation), using a deductive approach. Categories were based on deductive categories identified in my literature review, to examine the nature of pupils' literacy practices when engaged in e-learning and the features of teacher creativity.
<b>5. Modify</b>  <b>April-June 2012</b>	The pilot findings helped me to modify my research questions and to hone my research focus specifically to how implementing e-learning via multiliteracies pedagogy impacted on my classroom, the nature of pupils' literacy practices and my (teacher) creativity.
<b>6. Move in new directions</b>  <b>Sept 2012</b>	Based on insights from reflecting on my initial pilot study findings (Spring 2012) I continued using the components of multiliteracies pedagogy to enact e-learning in history. I replaced the class history text book with a theme/topic approach in history, where I chose strand units and themes from the Revised History curriculum (DES, 1999) based on curriculum objectives and skills, creating my own resources instead of a text book determined curriculum. This also required pupils to collaboratively work on each new theme (Appendix 12), gathering

	information from sources beyond a class text book thus acknowledging the variety of experiences of my pupils, one of which was ‘Life in the Past: in my grandparents time’, the curriculum focus in Cycle 2.
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Table 3(a) Action research Cycle 1

Cycle 2

In the second cycle of action research, I sought to find a way to incorporate the growing autonomy I observed in pupils during Cycle 1, and used the components of a multiliteracies pedagogy to continue introducing e-learning into my history teaching. I wanted to further explore the changes that I saw emerging in my classroom, evolving through simultaneously changing the roles of myself and my pupils, where pupils became more agentic and my pedagogy less visible. I capitalised on growing pupil autonomy by inviting pupils to participate as researchers, which reflects what Carr and Kemmis (1986) refer to as a conditional requirement of action research, by widening participation to include others in my practice, in this instance the pupils engaged as researchers.

Cycle 2	Activity
<p><b>1. Observe</b></p> <p>Sept-Oct 2012</p>	<p>In this cycle, I focused observations on all 25 pupils. I closely observed the literacy practices of pupils in their mixed age and ability groups in light of their growing autonomy and responsibility given to pupils within the animated filming task structure. I also looked at where and how they were seated, being aware of the importance of collaboration and also my changing, less central role.</p>
<p><b>2. Reflect</b></p> <p>Nov-Dec 2012</p>	<p>In continuing with the implementation of e-learning through the components of multiliteracies pedagogy I reflected on how to best foster the growing autonomy and agency of the pupils in my classroom. In light of this, I thought pupils in the class would be capable researchers. This would give pupils an authentic voice of their own. This would necessitate teaching them the skills of gathering data and analysis. I reflected on the</p>



	<p>need to allow for more varied editing, such as more auditory tracks, as pupils were limited in Cycle 1 to one auditory track and could not simultaneously add sound effects, voice-overs with speech and soundtrack music when they wanted to.</p>
<p><b>3. Act</b> <b>Jan-April 2013</b></p>	<p>I invited pupils in 3<sup>rd</sup> class (11 pupils) to work alongside me as researchers conducting their own research on whether animation helps learning in history. I trained 11 pupil researchers to gather and analyse data. They gathered their own data by photographing the animation process of each group, recording peer- interviews and keeping a diary also. I taught them how to use Microsoft Excel to analyse and present their data. All 25 pupils worked in five mixed age and ability groups to create five animated films. The cycles ran current with two school years, Cycle 1 2011-12 and Cycle 2 2012-13. As this is a multiclass there is a cycle of three years, 1<sup>st</sup> class (7 pupils) were new pupils and 2<sup>nd</sup> and 3<sup>rd</sup> class (18) were familiar with animation from Cycle 1. I continued centralising an e-learning approach via multiliteracies pedagogy in history. I collected data by video-recording both myself and the pupils working in whole-class and small groups while engaged in animated film-making. The task was to gather a story from their grandparents about life when they were a similar age (7-9 years) and to collaboratively, with their groups, animate aspects of this story (Life in the past), which gave information about everyday life at that time (work, schools, leisure, houses). I upgraded the editing programme to allow pupils to engage in more sophisticated editing. We created a blog, “School Cartoonz” to share all of their animation creations with the community outside of school. Grandparents and parents were invited to view the finished films. I also used a reflective diary and audio-recorded interviews.</p>
<p><b>4. Evaluate</b> <b>May-Dec 2013</b></p>	<p>I analysed data through selection of critical incidents from video-recorded data, followed by deductive and inductive analysis of these, aggregated into emergent themes. I used deductive and inductive analysis to code transcripts of pupil-interviews and further reduced this data by layering the coded categories into themes. I supplemented video-recorded and pupil interview data with notes from my reflective diary. I evaluated the nature of pupils’ literacy practices, how they communicated, interpreted and represented their learning in history as they engaged in e-learning, based on categories identified in the literature reviewed in e-learning. I reflected on my implementation of e-learning through components of multiliteracies</p>

	pedagogy. I evaluated my practice based on features of creative teaching I identified in the literature as well as drawing on my professional knowledge of the context and pupils, to analyse the impact of e-learning introduced through multiliteracies pedagogy. Pupil researchers analysed their own data (interviews, photographs, field-notes) using content analysis, in light of their own experiences in the multiliteracies classroom.
<b>5. Modify</b> Jan 2013-April 2014	The findings from my evaluation helped me to inform future planning, as a teaching principal, for my classroom and the whole school, in implementing e-learning through the components of multiliteracies pedagogy <i>situated practice, overt instruction, critical framing</i> and <i>transformed practice</i> .
<b>6. New directions</b> April 2014-	The new directions based on findings from my research are discussed in the conclusion chapter.

Table 3(b) Action research Cycle 2

### 3.4.3 Data selection strategy

#### *Critical incidents from video-recorded data of classroom teaching and learning*

I had 29 hours of video recordings of my classroom teaching and learning. I chose to select some specific critical incidents that best highlighted and magnified my changed classroom practices as I implemented e-learning through the four components of a multiliteracies pedagogy to assist pupils in designing animations in history class. Critical incidents have been used for a number of years as research tools to access reflections on experience for both teachers and pupils (Orland-Barak and Yinon, 2005; Richardson, 2000; Brookfield, 1995; Tripp, 1993). This study relies heavily on critical incidents to describe and transcribe episodes and the social context in which they occurred. Critical incidents are ‘rich, detailed accounts of specific events’ (Brookfield, 1990, p.181). The critical incidents in my study are those events when (a) I observed rich examples of the components of a multiliteracies pedagogy in action in the classroom; (b) I noticed pupils’ were designing, reading and writing using e-learning through a multiplicity of modes, and in particular the mode of image, as well as other modalities, such as music and sound. They represent times that I interpreted

as of particular significance in evidencing pupils' literacy practices (Orland-Barak and Yinon, 2005; Tripp, 1993). I chose them from video-stimulated review (VSR) of video-recorded data of classroom practice, as 'stand-out' incidents, supplemented by my reflective diary notes taken on dates the incidents occurred throughout the animation process.

#### ***3.4.4 Teaching children how to engage in research***

I opted to engage pupils as researchers, using age-appropriate methods, such as cameras and interviews, to guide the design of their own research methods, collect and analyse their own data and disseminate their own findings. The pupil researchers in my study needed to acquire a set of knowledge and skills to carry out the actual research itself. With regard to the perspectives of pupils as users of e-learning through animated film-making in the classroom, the pupils themselves had the experiential knowledge. "*The adult ethnographer cannot entirely bridge the divide and 'become a child again'*" (Kellett et al., 2004, p.331). However, regardless of how knowledgeable nine year olds are about their own experiences, in order to be able to design their own research they had to be overtly and explicitly taught the skills of the research process, from selecting tools for gathering data, maintaining anonymity and how to critically analyse and present findings. Through overt instruction (NLG, 2000) I conducted a series of 11 mini-lessons with a group of nine year old pupil researchers on how to 'do' research that included designing data collection tools, analysing data and presenting findings (Appendix 1). The techniques and language used were age-appropriate and showed pupils how to use interview, visual and kinaesthetic methods both to elicit responses and to represent findings (Lundy et al, 2011; Thomson and Gunter, 2007) to ensure responses were reliable. Once they were aware of possible methods to collect data and have regard for anonymity, pupils applied these skills relevant to the research question they devised, 'Does animation help our learning?'

Their semi-structured interviews differed from mine in two ways; they used photographs to elicit understanding and meanings (Thomson, 2008) particularly thinking of the youngest participants, something I didn't use. They were aware of the need to differentiate for younger pupils. I, as teacher, was competent enough in my verbal ability to elicit responses from the younger pupils. They also video recorded because "*you can see by them if they really understand or they're just shy*", (SeánB3, 19/4/2013). They transcribed each pupil interview, assigning one response-group to each researcher to transcribe, thus saving valuable time.

### **3.5 Participants**

#### **3.5.1 Sampling Participants**

In the research setting there were three age groups in one classroom, ranging in age from 7 to 9 years (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> classes), mixed age, gender and ability. All 25 pupils in my class (11 boys and 14 girls) were invited and voluntarily consented to taking part in the project.

Consent was also received from parents and the school board. To answer my questions about the implementation of e-learning through a multiliteracies pedagogy, the nature of pupils' literacy practices and its influence on my creativity, I wanted to look at all pupils, rather than one select group of pupils, to give me a more authentic understanding. Pupils had standardised literacy scores ranging from the 13<sup>th</sup> to the 98<sup>th</sup> percentile (Drumcondra Standardised Reading Tests). Five out of the 25 pupils (20 percent) had received learning support for literacy in the form of Reading Recovery or a similar programme. They were from a range of socio-economic backgrounds. The school is classified as rural "DEIS" in terms of educational disadvantage (Delivering Equality of opportunity in Schools; an Irish word, pronounced 'jesh' meaning 'opportunity'). Eighty-eight percent of the class had grandparents who grew up locally. All participants were Irish. Their grandparents were of Irish, British, American and Welsh nationality.

I opted for five groups of five pupils, to have an equivalent number of pupils in each team. I focused my data collection and analysis on one collaborative group at a time. Each of the five groups consisted of five mixed ability, age and gender pupils, typical of a multi-age classroom in Ireland. As far as was practicable, I included one boy and girl from each class 1<sup>st</sup> (7 years), 2<sup>nd</sup> (8 years) and 3<sup>rd</sup> (9 years). I coded them with a pseudonym, B for boy, G for girl and 1, 2 or 3 denoting their class level, in line with ethics to ensure anonymity (*Table 4*).

Group1	Group 2	Group 3	Group 4	Group 5
LarryB1	LisaG1	SéimíB1	JuneG1	ChloeG1
LilyG2	JohnB3	PollyG3	AineG3	SeánB3
TimB2	CiaranB3	JoanG3	WayneB3	SéamusB3
CaraG3	LauraG1	AnnaG2	MickB2	ClareG2
KiaraG3	EveG2	EddieB2	JimB1	NualaG3

Table 4 Participant group codes

### 3.5.2 Sampling pupil researchers

I invited only the oldest class grouping, (3<sup>rd</sup>) to be researchers for timing and operational reasons. Given that the entire class were already involved as participants, my primary focus, I selected just one class grouping to be researchers, as I was limited in the time I would have to teach them the necessary research skills. I include the mini-lessons on research skills in Appendix 1 (a) which I taught as I simultaneously carried out my own research (Jan-May, 2013). The group I invited consisted of the eleven 3<sup>rd</sup> class (9 year old) pupils, mixed age, gender and ability and already involved as participants. They voluntarily consented to participating in the study as researchers (Appendices 2-3).

They were divided into two groups to (1) research the animated filming process and (2) to conduct peer interviews, which I termed ‘process’ and ‘perspectives’. They themselves chose which aspect of the project they were interested in researching and grouped accordingly.

Interestingly, friendships did not influence their choice of task. Each research group was composed of mixed ability and gender, coded with a pseudonym along with G denoting girls and B denoting boys and their age (*Table 5*).

Research-Team 1 Process	Research-team 2 Perspectives
KiaraG9	WayneB9
AineG9	PollyG9
CiaránB9	CaraG9
JohnB9	JoanG9
SéamusB9	SeánB9
NualaG9	

Table 5 Pupil researchers

3.6 Timeline of study

I recorded the classroom interactions of the teacher (me) and the five groups of pupils in designing five animated films. The video-recording took place over 43 sessions over four months, resulting in 29 hours of classroom video footage. The length of each session varied according to the group and the specific task they were undertaking, most lasting 30-40 minutes. The following table outlines the timeline and content of video data collection of classroom practice in designing animations. The left column indicates the time taken by each group on each activity.

Session1  Jan 2013  (10.20mins)	I introduced the history project to the class. The children first collected a story from the oldest person they know about what life was like when they were the same age. They all chose their grandparents. ( <i>Overt instruction, situated practice</i> ).
Session 2	I introduced the technique of 2-d animation to the class, situating this firstly

18/1/ 2013  26.41mins	in the guided viewing of an animated film “Awful Arabella”,(made by senior pupils) using <i>overt instruction</i> to make salient points about animation and how to use the technique. Through <i>critical framing</i> we collaboratively discussed, negotiated and outlined pertinent aspects and characteristics of animation, such as use of colour, sound, action, placement of characters.
<b>Session 3-7</b> Jan 2013  <i>Group1</i> 23.26mins  <i>Group2</i> 8.08mins  <i>Group3</i> 8.37mins  <i>Group4</i> 15.28mins  <i>Group5</i> 8.56 (G=Group)	Working in teacher-designated groups of five pupils, mixed-age, ability and gender, the children selected one story per group, with the criterion that it tells something about life in the past, to design and produce an animation.( <i>Critical framing, situated practice</i> ) There were five recordings on five different days.
<b>Sessions 8-12</b>  G1 30.22mins G2 27.33 G3 32.54 G4 34.00 G5 29.12	The pupils created a storyboard to structure what would appear in their animations. Each group was filmed separately. Each group then designed, made and cut out all the characters and background sets for their animation by drawing, painting and selecting textured paper.
<b>Session 12-35</b> (Feb-Mar 2013)  G1 3.5 hrs  G2 4.9hr  G3 4hrs  G4 3.15hrs  G5 5.15hrs	The pupils used e-learning practices incorporating digital technology such as camcorders, netbooks, and audio recorders, to animate the aspect they collaboratively chose from the selected story. They used a camcorder and a computer programme “i-Can-Animate” to turn the 2-d drawings they produced, based on the story, into a stop-motion animation.
<b>Session36-40</b>	Each group used further e-learning practices to export their animation into

<p>(Feb-Mar 2013) G129.10 mins G2 48.33 G3 54.59 G4 22.33 G5 38.23</p>	<p>“iMovie” to edit and add sound-effects, voice-overs and credits (<i>Critical framing, transformed practice</i>). Pupils created their own sound-effects or selected them from the editing suite.</p>
<p><b>Session 41</b>  Mar 2013  (23.24 mins)</p>	<p>Through <i>overt instruction</i> I introduced how to incorporate the selection of a sound track. In a whole class session through <i>critical framing</i> we discussed the use of sound tracks on film. Each group chose a suitable soundtrack which they added to their film. We collaboratively decided to design a blog to host the finished animations for comment. I uploaded five films to the blog initially and pupils responded to comments in class.</p>
<p><b>Session 42</b>  April 2013</p>	<p>I interviewed the pupils in each group, individually and as a group, about their experience of using technology for the history project and school work-reading, writing, design.</p>
<p><b>Session 43</b>  April/May 2013</p>	<p>Pupil researchers interviewed their classmates about their experience of using animation for history. Pupils added Music and Gaeilge animations. Parents and Grandparents came to a special screening in the classroom.</p>

Table 6 Timeline and outline of study

### 3.7 Ethics

Ethical approval for this study was granted by the Open University’s Human Research Ethics Committee (HREC). In addition to this, the study adheres to the Revised Ethical Guidelines for the British Educational Research Association (BERA, 2011). The procedures followed during this study for gaining informed consent and in addressing the need for privacy, confidentiality, anonymity and secure data storage were guided by the principles therein.



### ***3.7.1 Access to schools***

As the study was based in my own practice access to school was straightforward. I gained the permission and support of the school authority (Board of Management) after outlining transparently the intentions and uses of the research (BERA Guidelines, 2011; McNiff and Whitehead, 2011). A copy of this letter is contained in Appendix 6.

### ***3.7.2 Informed consent***

As my research focused on my classroom practice, pupils were inextricably linked to the data collection process. It was therefore vital to have pupils' co-operation and consensus along with that of their parents, appropriate to literacy levels and age (7-9 years), to participate in the study, as co-participants and researchers. Before the generation of data took place, in consultation with BERA guidelines (2011), I gained written permission and consent for child participants and parents (Appendices 4-6), pupil researchers and their parents (Appendices 2-3). Letters to parents and child participants were differently worded, appropriate to literacy levels. It is important to note that as a teacher-researcher, it was my responsibility to explain the consent letters outlining the study details to pupils, and also to parents if they so required, given it is a DEIS school. To do this, I read the letters to the class to explain the study and to ensure they understood what was being asked of them. One parent required clarification about the study. This dual role, while potentially coercive, did not cause any conflict. Participants clearly understood the voluntary nature of their consent and participation. However, it does highlight that the role and influence of the teacher is difficult to separate when also acting as a researcher in the classroom.

Each letter included not only details of the arrangements made for their potential participation but also information about the study, about what their participation would involve and how any data would be used and stored. Issues of anonymity and confidentiality were also addressed and contact details for the researcher and my doctoral supervisors given

in case of any concerns. The letters explained the participants' right to withdraw at any time, for any reason.

### ***3.7.3 Privacy, confidentiality and anonymity***

Participants had a clear understanding of what was involved, expectations of them as participants and researchers, the benefits/risks involved as participants, were guaranteed anonymity and that they were free to withdraw at any time without any consequences to their relationship with the teacher or their grades.

### ***3.7.4 Data storage***

All video data was stored on a dedicated, secure password protected computer, accessible only by me at my home. That means nobody except me, had access to these video-recordings. This data was anonymous and unidentifiable. All data will be destroyed not later than October 2015.

## **3.8 Data sets**

Data that I collected and analysed for my research were derived from the following sources:

- Video-recordings of classroom practice
- 7 Critical incidents
- Pupil-interviews:
  - Individual
  - Group
- Animated films
- Reflective diary and Blog comments
- Pupil researcher data sets:
  - Photographs and Field notes
  - Peer-interviews

### ***3.8.1 Video-recordings***

I used a digital camera and a camcorder, to document pupils' in-class technology use and /or e-learning practices as part of a history project and my use of the components of the multiliteracies pedagogy. I recorded all their work on the project, approximately 29 hours in total, 43 sessions, over four months. I captured

- a) my instruction and interactions as class teacher;
- b) the pupils learning and using the "i-Can-Animate" and "iMovie" software to create and edit an animated film; and
- c) pupils' discussions, activities, responses and how they worked together to design the films. These recordings were used as the basis for the narratives of significant critical incidents.

### ***3.8.2 Individual interviews***

I conducted semi-structured interviews, with each of my 25 pupils, which were audio-recorded (10 & 11/4/2013). Each interview was 10-15 minutes long and recorded after the animated films were completed by all of the groups and before they had seen each other's animations. I manually transcribed each interview. Interview questions focused on pupils' own account of their literacy practices while designing animations and the aspects of e-learning that engaged them, addressing my second research question. Although I devised an interview schedule, (Appendix 7) the interviews were less formal and more conversational than having predetermined response categories. I varied the phrasing of the questions depending on the ability of the individual pupil to understand the question and depending on the depth of their responses, given the age range of 7-9 years. The questions however remained the same for each pupil, in accordance with qualitative semi-structured interviews, where my aim was to encourage the pupil to reveal their experience and perspectives on using the new e-learning practice of animated film-making in the classroom.

### *Group interviews*

I conducted open-ended, unstructured group interviews with each of the five groups. These were video-recorded and lasted 15 minutes each. I manually transcribed these interviews. This gave me an opportunity for in-depth analysis of pupils' collaborative experience of the process. The interview focused on pupils' own account of their experiences while involved in animated film-making and an explanation of their animated films.

### **3.8.3 Animations**

I collected the five completed short animations, as multimodal documents, where the pupils represented their learning through animated film (visual design) and music. I used screen shots taken from these animated films to illustrate the pupils' representations of their curriculum learning in history. These multimodal documents helped me to answer my second research question, in terms of identifying the nature of pupils' literacy practices when e-learning was implemented in history.

### **3.8.4 Reflective Diary and blog comments**

I kept a hand-written reflective diary with 41 entries dated from January 2012 to November 2013. I used this as a secondary method to document a narrative form of my intended actions and the outcomes of these. Each dated entry noted what I intended to teach or what I intended pupils to cover in the session. I noted my feelings and responses to the day's work (*Figure 1*). I also noted any incidents, comments or interactions that occurred once the camera was switched off throughout the day. It was supplementary information to use with my other data for critical reflection, at times difficult to do in a busy classroom and to capture moments that arose when the camera was switched off. After Cycle 1 (2011-12) I realised the importance of a diary to capture the essence of the influence of multiliteracies in my classroom as it is not feasible to video-capture the entire daily interactions of the classroom in all their spontaneity

and unpredictability.

I took three screen-shots of the blog comments, on the 'school cartoonz' blog we set up specifically to get authentic feedback on the animated creations, also as secondary data, to enable analysis of both pupil and adult perspectives, as real audience. Both the reflective diary and blog comments were used as additional verification data to triangulate with my primary data sets, video- recordings, critical incidents and pupil-interviews.

photographs, which they are saving to a special designated file on the class computer.	
<u>30.1.13</u>	
Each grp works simultaneously on making parts for animation. I buy from Gp 5 gagged duck eggs for their story as they'd never seen one. There is frequent conversation about size, shape, flexibility, materials that would be best (wooden signs, paper...) Also conversation about music, colour, how to make things look real. I will record some snippets tomorrow.	am 4/2/13 (Monday)
Today is the first time I've been asked 'instantaneous' is that ok' or 'what about that' in directing each group, so have to trust their own judgement.	Group 4 put finishing touches to scene 1. They forgot to bring in any for the thumbnail but had notes in the classroom (left over from St Brigid's Day Feb 1) and used these instead.
JC (G3) "Ah miss this is so fun" mixing between internet pc + own base to copy the duck egg + duck. They're planning a good effort to complete the next scene to make / appear.	They were proceeding to stick them on horizontally until a child in another group (G3) pointed out they were the wrong direction. I said gagged 'looks made of sticks' to clarify. The group then proceeded to cut + stick the sticks vertically from top to bottom, delaying the start of filming but ensuring accuracy.
<u>4/2/13</u> Learning conversation diagnostic spaces focus on communal, collaborative aims. Socially constructed identity shifts. Take on authentic roles director,	This group have had to decide where to base the story as half had grandparents grow up in the UK a common history in Ireland with patterns of immigration. This required negotiation as no whether life would be the same in both places.
	11:45am Interruption at 11:50 due to library.
	I'm very impressed that the grp were set up + in place ready to film before I entered the classroom.
	↓ motivation !! agency!!

Figure 1 Sample of Reflective Dairy entry

3.8.5 Pupil researcher data sets

Pupils were divided into two groups of researchers. Data collected by the pupil researchers were derived from the following sources

- Photographs and field notes
- Interviews

### *Photographs and field notes*

Pupil research Team 1 chose to research the process of how a story becomes an animated film in the classroom. They gathered data by taking 202 photographs of the groups as they worked collaboratively. They captured these photographs during 39 of the 43 classroom sessions that the whole class engaged in while designing the animated films, from 22/1/2013-20/3/2013. They did not capture the whole class lesson at the start of the process. In the same time-period, pupil researchers also kept written field notes, consisting of 31 entries, which they divided into sections denoting 'what pupils did' and 'the teacher' on each page (Appendix 9).

### *Interviews*

Pupil research Team 2 conducted 25 semi-structured interviews with their peers, recorded using a flip camera. They devised their own interview schedule consisting of five questions (Appendix 10) with minimal participation from me, merely to guide, such as advising them to extend a monosyllabic answer by asking 'why' in order to get more in-depth responses, which they then used very well. Their questions focused on aspects of animation, group work and using technology. Their self-composed research question was "Did animation help our learning in history?" and they used this to guide their interview questions. The content contained very much what *they* wanted to find out, which I believe was vital in order to really gain pupils' own perspective on learning in a multiliteracies classroom.

#### ***3.8.6 Classroom Limitations on data collection***

There were limitations in how the study could be captured in a busy 'real' classroom context. Because it is action research, I carried out observations and recordings over the regular school day. If I were carrying out such a project without the requirements of research to capture the interactions in each group, all stages of the process would be worked on simultaneously by the pupils, that is all groups would select their stories and create story boards on the same day and at the same time. However, to capture closely the conversations

and interactions between pupils and myself, I recorded each group, one at a time, while engaging in each stage of the process. The rest of the class not being recorded at that time worked on other aspects of the curriculum that were not pertinent to my study. This was time consuming but necessary and resulted in 29 hours of video footage. No group spent more than the allotted curriculum time of one hour per day for Literacy, which was important as in order to be viable, curriculum requirements must be adhered to. Length of time per day varied according to the task being undertaken. As literacy was integrated into history, this was also within the one hour per week for history time facilitated by the curriculum timetable, as each group worked individually, allowing the time per pupils not class.

Pupil researchers were influenced by my interview set-up, individual interviews of pupils attending in pairs, albeit for unique reasons. They wanted individual interviewees, but they felt, as I did, that it may be daunting to be interviewed alone. However, they also believed that if there were more than two pupils, they would just copy each other's answers (Reflective Diary, 23/4/2013). They interviewed the pupils in the office (located beside my classroom) away from the noise of the classroom.

**3.9 Approach to data analysis**

In this section I outline how I prepared data sets for analysis and the analytic strategy I employed. The following grid introduces the data sets I used for each research question and the combined deductive and inductive analytic strategy (Cohen et al., 2007) I employed in order to answer each of the questions.

Research question	Data sets	Analytic strategy
1. What happens when a teacher uses the four components of a multiliteracies pedagogy to implement e-learning in a rural multi-age	Critical incidents 1-4	Inductive analysis

classroom in Ireland?		
2. What is the nature of pupils' literacy practices when the teacher implements e-learning in history?	Critical incidents 5-7 Pupil-Interview transcripts Pupil researcher findings Animated films	Deductive & inductive analysis  Multimodal analysis
3. Does using a multiliteracies pedagogy foster the teacher's creativity (as a pedagogue)? If so, in what ways?	Video-recordings of classroom practice Reflective diary and blog comments	Deductive & inductive analysis

Table 7 Research questions, data sets and analytic strategy

I analysed the two action research cycles using deductive and inductive analyses (Cohen et al., 2007; Gilgun, 2007), in relation to each research question. Data sets were subjected to extensive and focused analysis. I explored the nature of pupils' literacy practices as they communicated, interpreted and represented new learning in history through the animation process and pupils took on a more central role through collaborative use of e-learning. Data sets were also analysed to look for features of creative teaching which emerged from the literature review. I initially derived deductive categories from the literature which I used to analyse the video-recordings, critical incidents and pupil-interviews. These categories were based on the literacy practices of *social interaction, communication, peer-tutoring*, (Lee and O'Rourke, 2006) and *multimodal design* (Kress and Van Leeuwen, 2010; NLG, 2000) and the features of creative teaching *making connections/relevance, originality/innovation, shared ownership, shared control, improvisation, standing back* and *open-ended challenge* (Thomson et al., 2012; Cremin 2009; Sugrue, 2006a; Jeffrey and Craft, 2004; Sawyer, 2004). I then inductively coded video-recordings and interview data for emergent behaviours using these categories as analytic lenses. This was followed by categorical aggregation (Creswell,



2007) as I further reduced data into axial codes and then selected themes (Denscombe, 2010), through reading and re-reading of the data. *Figure 2* below is a sample section of the coding scheme I used based on pupils’ literacy practices.

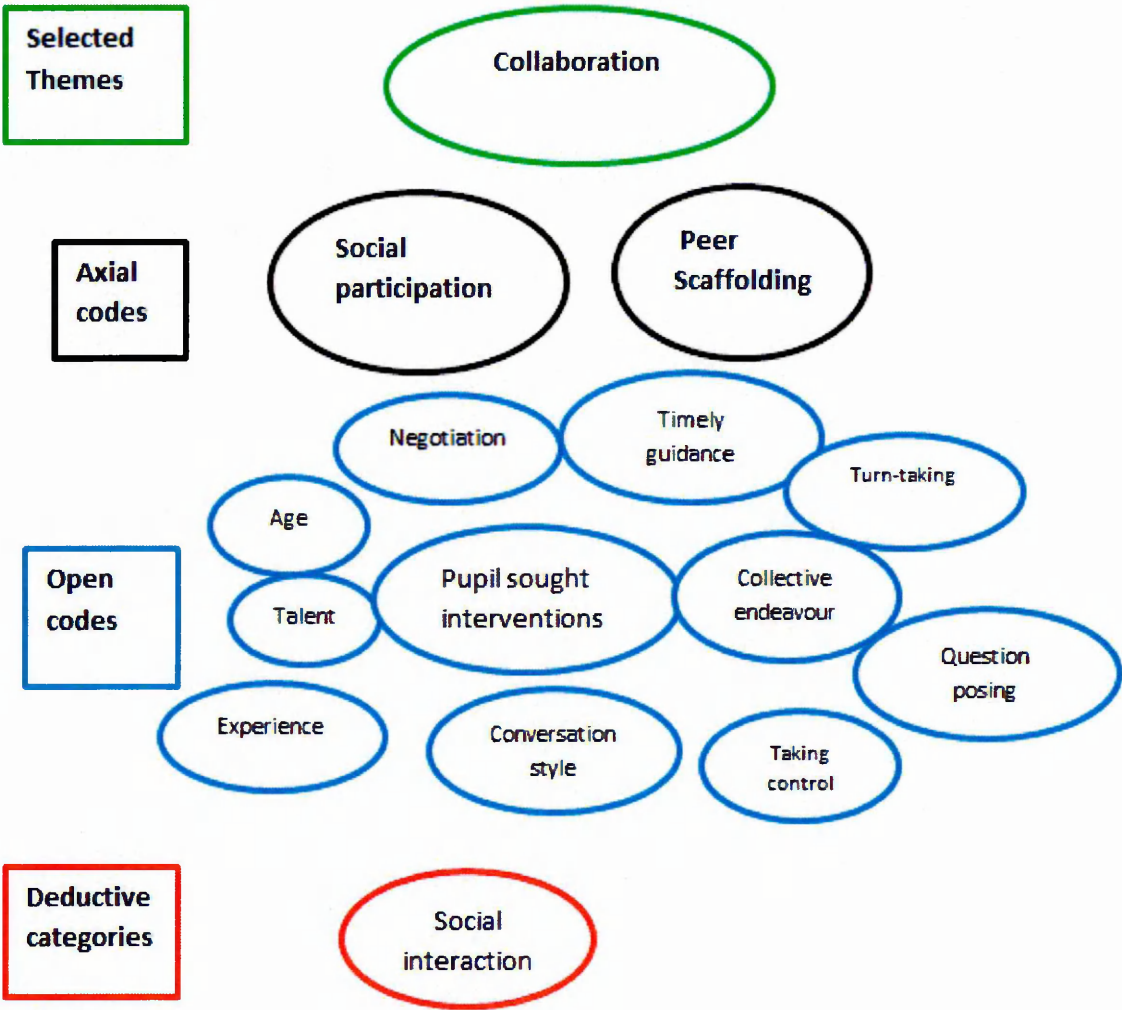
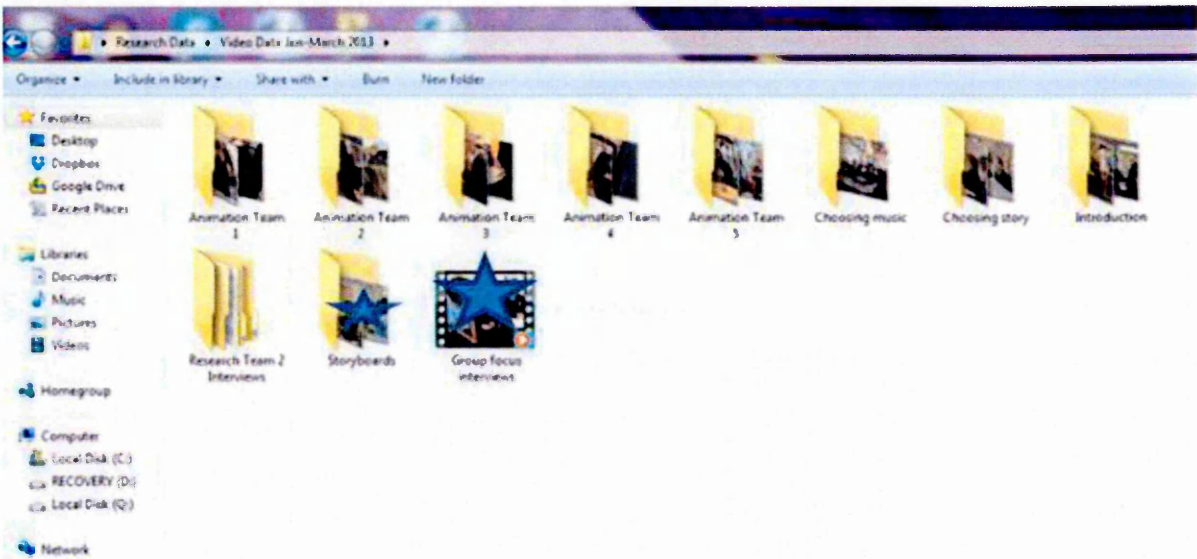


Figure 2 Sample section of coding scheme

3.9.1 Analysis of critical incidents

After video-recording two whole-class lessons (18/1/2013 & 24/3/2013) of overt instruction to learn how to make animations, and 41 sessions of each group separately at each stage of

the process- selecting stories, story-boarding, animating and editing (Jan-March, 2013), I separated and indexed the data according to each group e.g. Group1 and all the video-recordings of their lessons/work on the animation (*Figure 3*). I noted the time, date and group these occurred in to facilitate further review.



*Figure 3* Screen-shot of indexed video-data

Data reduction of recorded-video involved me deductively narrowing in on seven selected critical incidents. Critical incidents 1-4 illustrate the components of multiliteracies pedagogy and their suitability to introduce e-learning. They were seen to be critical because they were significant, rich instances that highlighted the multiliteracies pedagogy components in practice, which I could then link directly to my first research question. Critical incidents 5-7 relay observed pupils' literacy practices, which I deductively selected as critical based on the literacy practices of *social interaction, communication, peer-tutoring* and *multi-modal design*

which emerged from the literature review (Kress and Van Leeuwen, 2010; Lee and O'Rourke, 2006; NLG, 2000).

In order to be rigorous, particularly as this study entails critical reflexivity, I described these seven critical incidents through narrative vignettes. I worked deductively with existing categories from the literature review and inductively by further examining the critical incidents for emergent categories and relationships (Cremin et al., 2006).

For analysis of critical incidents to generate findings to answer my first research question regarding what happens when a teacher uses the components of multiliteracies pedagogy to implement e-learning, I deductively selected critical incidents 1-4 and titled them:

*'Introducing animation'; 'Teacher doesn't know best'; 'New digital literacy practices' and 'The app'* because they neatly exemplify the four components of multiliteracies pedagogy *situated practice, overt instruction, critical framing and transformed practice* to implement e-learning in my classroom. I used the components as guiding themes for scrutinising data. I inductively analysed critical incidents 1-4, deriving 18 open-codes identifying categories that exemplified the relationship between the four multiliteracies components and e-learning and the pupils designed animated films. After open-coding each of the incidents, I further scrutinised data to identify sufficient congruence between the initial 18 codes to combine them in three broader categories *Enabling environment, New digital practices and Motivational*. These I refined further in order to arrive at two themes, *Design Process* and *Out-of-school experience*, with which to present and discuss findings in relation to the best suited aspects of multiliteracies pedagogy to implement e-learning in my classroom.

To question the nature of literacy practices as a result of pupils engaging in the design and production of animations, critical incidents 5-7 entitled: *'Reading the story'; 'The teacher slaps' and 'opening the door'* were scrutinised. I inductively coded the three critical incidents (5-7) I had selected to scrutinise the nature of pupils' literacy practices as they engaged in

animated film-making, so that while supporting existing categories, I could also highlight emergent relationships. 29 open codes emerged as I inductively coded. Revisiting the critical incidents many times, I reduced these codes to six axial codes employing categorical aggregation of congruent codes to refine these codes into three selected themes for discussion of my findings *Collaboration*, *Agency* and *Multimodal design* (Appendix 11 b).

### **3.9.2 Analysis of video-recordings of classroom practice**

To generate findings to answer my third research question whether using the four components of a multiliteracies pedagogy fosters teacher creativity, as a pedagogue, I employed deductive and inductive analyses of the separated and indexed video-recordings of classroom practice (separated according to groups and the recordings of their work on the animations). I then scrutinised my pedagogical practices to uncover features of creative teaching that emerged, based on works by several theorists: *making connections/relevance*, *originality/innovation*, *shared ownership*, *shared control*, *improvisation*, *standing back* and *open-ended challenge* (Thomson et al., 2012; Cremin, 2009; Sugrue, 2006a; Jeffrey and Craft, 2004; Sawyer, 2004). I employed these features as deductive categories to guide my analysis of what teacher creativity (as a pedagogue) looks like in practice. Arising from my literature review, I based my notion of teacher creativity on '*pedagogical practice*', one of the three inter-related dimensions of teacher creativity in practice identified by Grainger et al., (2006) cited in Cremin (2009), the other two being '*personal disposition*' and '*school ethos*'. I deductively coded the video-recordings of my classroom practice according to the above categories and selected and transcribed instances where any of these deductive features emerged. Following this, I then open-coded the selected instances with 18 inductive codes which identified behaviours in the data that both supported the deductive categories and evidenced something different (Appendix 11 c). To further reduce my data, I refined these codes into three axial codes *enlightened spontaneity*, *shared evaluation* and *360° observation*

by identifying congruence through categorical aggregation (Bernardo, 2012; Creswell, 2007). Further scrutiny of the video-recordings helped me to identify one over-arching theme, *agile pedagogy*, which I used to answer my third research question.

### **3.9.3 Analysis of pupil-interviews**

The analytic strategy I employed for pupil-interviews was deductive and inductive. I used analysis of pupil-interviews to complement my analysis of selected critical incidents five to seven related to the nature of pupils' literacy practices as I implemented e-learning in history in order to answer my second research question. I examined pupils' experience through transcribed interview responses, in relation to their literacy practices as users of technology both in and out of school (Pahl and Rowsell, 2005). I wanted to examine the extent to which analysis of what they reported in their interviews data was congruent with my analysis of critical incidents five to seven. To do this, I deductively analysed pupil-interviews using the same deductive categories as I did for the critical incidents (5-7) with regard to literacy practices (Lee and O'Rourke, 2006; Kress, 2000; NLG, 2000).

My preliminary level of deductive analysis (Cohen et al., 2007) was as I transcribed 25 pupil-interview responses and five group-interviews, deductively coding *social interaction*, *communication*, *peer-tutoring* and *multi-modal design*. Following this, on the first reading of transcripts I inductively coded pupil responses as emergent behaviour categories, which I noted on the transcripts, using the Review tool in Word. I next indexed the 29 coded categories, as sometimes more than one code applied to a statement. After re-reading the transcripts several times, a time-consuming but worthwhile exercise, my analysis became more purposeful and interpretive. I narrowed down and grouped common and recurring codes, employing categorical aggregation (Bernardo, 2012; Creswell, 2007). I grouped them into the same six axial categories that had emerged from analysis of critical incidents five to

seven denoting pupils' literacy practices. I further collapsed these categories into the selected overarching themes of *collaboration*, *agency*, and *multi-modal design*. I organised and saved data from my transcripts under each of these primary themes by cutting and pasting from pupil response scripts to store under each selected theme.

#### 3.9.4 Analysis of animations

I used multimodal analysis (Kress and Van Leeuwen, 2010; Thomson, 2008) scrutinising finished animations using the deductive codes *visual*, *auditory*, *gestural*, *spatial* and *linguistic* for how pupils used these multiple modes in designing animations to evoke emotional responses and represent meaning as they communicated their understanding of history content and achieving curriculum outcomes (Appendix 11d). Multimodal analysis was used because images contain evidence that are “*records of reality, as documentary evidence of ...events they depict*” (Van Leeuwen and Jewitt, 2001, p.4). The deductive categories employed to analyse the pupil-designed animations, *visual*, *auditory*, *spatial*, *linguistic* and *gestural*, also contain audio and spatial modes as well as visual images (sound effects, soundtrack, size of images) (Kress and Van Leeuwen, 2010), hence multi-modal analysis was employed. After reviewing each animation several times, I aggregated open-codes into four axial codes, *visio-spatial*, *auditory*, *spatial-gestural* and *visio-linguistic*. I reduced these under the selected theme ‘*multimodal design*’.

After review of each animation, I used screen-grabs, labelled in Word, to illustrate pertinent elements of the curriculum, and whether through the finished animated-films, pupils could re-represent their curricular knowledge using affordances other than print to evoke emotional response through design.

### ***3.9.5 Analysis of reflective diary***

The entries in my reflective diary provided a valuable insight for me when I was selecting and narrating the critical incidents, as they had recorded my intentions, feelings and reactions. I supplemented my analysis of critical incidents and video-recording of classroom practice with the diary entries. Where I analysed a video-recording, I then reviewed my diary for the corresponding dated entry and these entries were therefore a useful supplement to my critical analysis of the video-recoded data.

### ***3.9.6 Analysis of blog and comments***

I analysed the blog and nine comments (April-May 2013) using multimodal analysis employing the deductive categories *visual*, *auditory*, *spatial* and *linguistic* for how pupils used these multiple modes in designing the blog to host their finished animations. I triangulated the blog and comments with other data sets from the video-recordings of my classroom practice and my multimodal analysis of the animations as additional verification data to strengthen my findings.

### ***3.9.7 Analysis of pupil researchers' data sets***

I used deductive analysis to examine the pupil data sets with regard to pupil role and teacher role throughout the process, categorising their data sets (Microsoft Photo Story and peer-interviews) with my own aggregated selected themes. I then triangulated their analysis with my own analysis of critical incidents 1-7 and pupil-interviews to look for common themes. I categorised their self-composed peer-interview questions (below) to correspond to my own categories of *Collaboration*, *Agency* and *Multimodal design*.

1. Do you think working in a group helped learn about history? How?
2. Did you enjoy using animation? Why?
3. What part did you like best?

4. Was working in a group better or worse than working on your own? Why?
5. Did you think animation changed the way we do history? Can you explain?

#### *Analysis by pupil research Team 1*

Pupil researchers critically analysed 202 photographs their team had taken throughout the animation process (Jan-March, 2013). They selected 27 photographs and used inductive analysis of this data selecting the following themes as their codes: *collecting stories, working in groups, storyboarding, making parts, filming, editing, credits and blog*. They used this data to compile a narrated Photo Story “*The journey from a story to a blog*” which explained the animation process as they experienced it in our classroom. They further analysed this photostory and their field notes, in terms of pupil and teacher role as well as their learning throughout the animation process. This formed the basis of their summary conclusion. Both teams used PowerPoint presentations to present findings to teachers, parents, grandparents, peers and for teachers attending a summer course in the school (Appendix 16, a and b). Their findings in this format were presented on a National website concerned with film-making in classrooms, denoting both the current high interest in film making in education and pupil perspective.

#### *Analysis by pupil research Team 2*

Pupil researchers collaboratively transcribed and reported the responses from 25 peer-interviews (April 2013). Each member of the team transcribed five interviews. They used content analysis and coded the transcribed responses by using the categories of questions asked, such as “Did you think animation changed the way we do history? Can you explain?”- for explanations given by their peers. They then based their findings on the five questions they had asked, as per their interview schedule (Appendix 10), and compiled their findings, using Excel and Word, in relation to these, after I taught them how to use them (Appendix 1b). Their summary conclusion consisted of the main points evidenced from the interviews.



### **3.10 Reliability and bias**

Being a class teacher and thus an insider, I am acutely aware of the risk of bias. The core of action research is that I intentionally take responsibility for exercising influence on my practice to improve it through this study. Therefore critical self-reflection is a crucial criterion of this action research. My critical self-reflection helped me to unearth everyday classroom habits, customs and precedents, to allow a clear view of effective learning and thus practice, and hopefully avoid distorted self-meanings (Kemmis, 1988). There are always interests, beliefs and values embodied in research. Bias is illusory in so far as no observation or research is ever neutral or value-free (McNiff and Whitehead, 2011; Somekh, 2006; Kellett et al., 2004; Kemmis, 1988 ). Action research differs from other forms of educational research such as social science as it is carried out by the ‘actors’ themselves, a form of ‘insider research’ (Bassey, 1995, p.149). As a teacher, I am obviously an insider in my own classroom setting and practice and I used this insider role to investigate my practice through an action research approach. As this is Doctoral research towards an accreditation, my supervisors were suitably external to my practice in order to be objective. This lessened the bias and increased ‘external validity’ (Schofield, 1990). I also invited a research-peer (a primary school inspector familiar with multi-age classroom practice) to review my coding scheme in relation to critical incidents to further reduce the risk of bias, which helps to enhance the credibility of the study.

### **3.11 Validity**

The ambition of improving practice does not stand alone in action research. The nature of this action research is essentially collaborative, with teacher and pupils generating both local and public knowledge, and so to share this transformation with interested others in the educational field is a natural prerequisite (McNiff and Whitehead, 2011; Koshy, 2010).

Broadly, the aim of this action research extends beyond improving my own practice to sharing findings and influencing others in a similar context or with similar interests (Koshy, 2010; Somekh, 2006). Whether it is accepted as worthwhile and relevant research depends on the rigour of my data collection and analysis, and the generation of authentic evidence from the data. Although my data provides the evidence in my own context, findings may also pertain to and resonate with teachers and/or researchers in similar multi-age or rural contexts. This is not to suggest the findings are generalizable; they are specific to the context in which the research was carried out. However, this study may be replicated in other classrooms in similar contexts (Koshy, 2010; Lomax, 1994; Guba and Lincoln, 1981). On a local level in my context, my findings will extend to influencing a whole-school policy, where literacy approaches and our approach to e-learning on a school-wide level could be influenced and informed based on accounts of my practice emerging from doctoral study.

### **3.12 Summary**

In addition to introducing the mixed-methods approach, data collection and selection strategies and sampling of participants, the purpose of this chapter was to relate the process that characterised this study's design. I explained my rationale for choosing the mixed methods of action research and engaging pupils as researchers, as I discovered new ways of engaging with pupils and their literacies while redesigning a pedagogy that incorporated more relevant and creative teaching and learning as pupils engaged with new e-learning practices. The chapter also outlined the study context, my procedures for the study, ethics, classroom limitations on data collection and my approach to data analysis.

## Chapter 4 Findings

### 4.1 Introduction

In this chapter I present and discuss findings from my action research. Findings from each of the following data sets are presented separately: critical incidents, video-recordings of classroom practice and pupil-interviews.

### 4.2 Analysis and discussion of the data from the critical incidents

In this section I present findings from seven critical incidents. I initially present critical incidents 1- 4 to answer my first research question, what happens when a teacher uses the four components of a multiliteracies pedagogy to implement e-learning in a rural, multi-age classroom in Ireland? This is followed by presentation of critical incidents 5- 7, where I discuss findings in relation to my second research question, what is the nature of pupils' literacy practices when the teacher implements e-learning in history, under the themes *collaboration*, *agency* and *multimodal design*.

#### 4.2.1 Critical incidents that evidence the components of multiliteracies in practice

I found that the four components of multiliteracies pedagogy, *situated practice*, *overt instruction*, *critical framing* and *transformed practice* observed in my classroom helped me to implement e-learning in my multi-age classroom primarily in two ways, enabling the *design process* of animated film-making and through harnessing pupils' *out-of-school experience*. The four multiliteracies components were simultaneously present at times in my practice. Within multiliteracies pedagogy, they are not intended to be linear so I present them according to my two themes that arose from inductive analysis, *Design process* and *Out-of-school experience*.

*Critical incident 1: Overt instruction to introduce the design process of animation (18/1/2013)*

The first lesson consisted of 25 pupils seated five to a table in the classroom, in their mixed age and ability groups. It was a teacher-led lesson to introduce the main design elements of animation, auditory and visual, by collectively examining a five minute animation “*Awful Arabella*”. The teacher led the lesson throughout playing the DVD on the interactive whiteboard and pausing at short intervals to examine each shot sequence as the following extract illustrates.

[1:23 A drumroll is heard at the start of the animation and a cat jumps across the screen. T. pauses screen. ]

Teacher            “What did you hear?”

SéamusB3        “It’s a drum-roll”

Teacher            “What does that [drumroll] make you think?” [Lots of hands enthusiastically raised to answer.]

SéamusB3        “It’s going to be exciting”.

NualaG3           “I’m excited”.

Teacher            “Right. I want you to notice the kinds of things (elements) that are used in this animation to make you watch... because when you make a film you make it so that?”

All                 “People will watch”

Teacher            “Ok. So that was a drumroll a *sound* we heard.” [The animation continues for 5 seconds with music introducing the title of the film. Voice-over: Arabella came to stay. Image of a girl walking through a gate-way and sticking out her tongue and sound-effect of her saying ‘na-na-na-na-na’. T pauses film. It has moved to the next frame showing the girl pulling the cat’s tail.] “In that last frame what tells us that she was awful?” [Lots of excitement and hands raised and sounds of ‘na-na-na-na-na’ being imitated.]

                       “JimB1 what do you think?

JimB1             “She is sticking her tongue out”. [ChloeG1 makes sound of ‘na-na’ again.]

Teacher            “So that gave us a clue? We could *see* in that shot she was awful as well as the voice telling us” [T points to ChloeG1 to acknowledge her contribution] “Didn’t the voice-over tell us too?” [All nod.]

JimB1             [Raises hand] “And Miss she pulls the cat’s tail”.

Teacher            “That’s right, you can see that in this frame” [To class] “So watch and see what you can see and you can hear that tells the story.

In this lesson, I overtly introduced the pupils to two of the necessary multimodal elements of animation, the use of sound to evoke emotion and the use of visuals to capture character

traits, while introducing some of the associated technical language, such as ‘frame’ and ‘shot’. My findings from this incident evidence the pupils, from the oldest (nine years) to the youngest (seven years) competently and enthusiastically engaging in analysing each clip (every five seconds or so) for sound effects, voice-overs and the characters actions, that help to convey character traits in animation. I engaged in overt instruction through use of open questioning. Unlike the pre-study classroom text-book, the animated film was a multimodal text. The pupils actively engaged with this text, led by my questioning, to generate the new understandings rather than receive pre-determined information. This prepared the pupils to engage in the design process of animation, because they learned how to use the auditory and visual elements to tell a story through animation. My overt instruction was a combination of open-questioning “what does that make you think?” and reinforcing their answers with explicit information “I want you to notice the kinds of things that are used in this animation to make you watch ... So that was a drumroll a *sound* we heard ... We could *see* in that shot she was awful as well as the voice telling us”. This helped the pupils to discover the importance of the auditory and visual modes or elements necessary for animation.

In subsequent lessons, pupils worked collaboratively within their mixed age groups. Within these small groups, I engaged in overt instruction in a similar way to introduce pupils to each new element of the process from story-boarding (28/29-1-2013) to using the camera and inserting sound effects (4/2-21/3/2013). By using overt instruction, I guided pupils’ design of animations and introduced the metalanguage (shot, scene, frame) by explicitly identifying the multimodal elements of animation, creating storyboards and using the technology. Pupils were able to then identify the criteria for designing their own animations in subsequent sessions using the metalanguage of animation such as when they were storyboarding ten days later (28/1/2013, Group2, 2:23) AnnaG2 asked “*Should we do scene 1? It’s 2-d for camera position*” JohnB3 “*Draw a farmer bringing in hay and in the next shot feeding it to the*

*cows*". By engaging in overt instruction the classroom environment was enabled for the introduction to the design process of animation.

#### 4.2.2 Design process and Critical Framing to negotiate content

##### *Critical incident 2 "Teacher doesn't know best" (5/3/2013)*

Group 2, the last team to film (teams filmed as soon as they had all parts ready) were collaboratively working on scene three, independent of the teacher, where they were attempting to demonstrate socio-economic differences in their grandparents time by animating a hay stuffed mattress that "poor people had" and a feather one that "rich people slept in" (AnnaG2, 39:47).

[At 41:48 I intervened (uninvited) to join the group in reviewing on screen what they have done in the past 41 minutes. They have filmed the farmer walking across the screen with a pitch fork full of hay to stuff the bed placed on the screen.]

Teacher      "So he's putting it into the bed here [all smiling]? Be more careful cutting out, there is a lot of white outline visible on the bed. Cut them off or else you could paint the bits you can't cut out? What do you think?" [All shrug uncertainly and continue to review the rest of the scene with CiaránB3 operating the computer.]  
... "That's good. How will you make it look like it goes into the mattress?"  
AnnaG2      "Actually it's a hay bed".  
JohnB3      "Maybe we could make it disappear?"  
Teacher      "How? What would you do?" [All think.]  
AnnaG2      "Slit it!"      [All agree.]  
Teacher      ... "Tell me when you're ready and I will slit it for you" [Leaves group to prepare scene. AnnaG2 and JohnB3 negotiate whether hay really needs to disappear.]  
AnnaG2      "The hay IS the mattress".  
JohnB3      "It's supposed to disappear INTO the mattress".  
[No-one corrects the white on the bed. CiaránB3 continues to review screen]  
CiaránB3      "We may have to delete the whole scene. His leg is gone like that [walks crookedly]. [SeamusB3, not working with this team, but working as a pupil-researcher, passes their work-station.]  
SéamusB3      "I notice that bed has an awful lot of white not cut off. Who cut it out?"  
[Reflecting the comment I made less than 5 minutes earlier. He clarifies his non-involvement as they argue about who cut it] ...  
"I was just saying" and leaves. [Immediately all the team gather to review the shots on screen and pose the question "do we do it again?" to which they agree, also realising there is a 'jump' in the farmer's walk. They proceed to delete the whole section with the bed, to cut out the corners, remove the white

outline and colour it to remove the extra white, and also fix the farmer's walk.]

There were a number of issues raised by this incident. Firstly, I found the pupils in this group to have engaged in higher order critical thinking and reflection in their use of beds (hay and feather) to portray the socio-economic inequality of the time, with farmers being poor, as they perceived it. Pupils were able to sift out useful information from the stories they had collected from their grandparents to enhance the design of their animation contents. Secondly, they engaged the same reflection and critical dimension in terms of the choices and adjustments they made to the visual representation of the scene. I intervened, but I didn't insist on any changes, nor did the pupils immediately act on my suggestions. CiaránB3 knew he had the opportunity and space for him and his group to make a decision, and initially he didn't do anything, as he was critically reviewing the entire scene, not just the single bed item as pointed out by me, indicated by his comment about the farmer's walk. The pupil researcher (SéamusB3) also mirrored my involvement by stepping back, after his initial comment. However, the peer comment, rather than the teacher intervention, prompted the whole group to join CiaránB3 in critically reviewing the entire scene. All pupils did not appreciate my intervention or agree with my ideas, as AnnaG2's reaction indicates "The hay IS the mattress". Pupils noticed and decided on edits to be made themselves, the 'jump' in the farmer's walk being the crucial decider in this incident. The decision was peer-directed and happened as a result of critical negotiation and evaluation and the independence to focus on the elements the group identified as more important. Critical framing enables pupils to analyse and interpret the social and cultural purposes of texts (NLG, 2000), in this study, animation. I used critical framing by encouraging the pupils to question the appearance and content of their animations. I also gave them space to negotiate the design with their peers. I found that this component of multiliteracies pedagogy encouraged pupils' decision-making

and problem-solving rather than content delivery. This critical framing helped pupils to analyse their designs both critically in terms of the historical context, and functionally, in terms of animation. Rather than replicating knowledge, a characteristic of pre-study practice, pupils were generating original re-representations of their new learning.

Critical framing is evidenced where pupils actively reflected on their own work rather than passively accept what I suggested. Peer-opinion appeared to be more relevant than the teacher's, an example of critical framing where peers are considered the audience to whom the meaning of the animation is directed (Kalantzis and Cope, 2000). Their action was critical and collaborative, and illustrates shared pupil-autonomy and evaluative thinking that the critical- framing component of a multiliteracies pedagogy afforded pupils in designing their own animation. Reflective analysis led the group to re-film the scene correcting the bed, the farmer's leg and insert the hay into the mattress, a peer-directed decision. I found that critical framing emerged as an integral part of implementing e-learning in a medium such as animation by enabling pupils to engage in critical analysis to edit and design the content of their animations.

#### ***4.2.3 Engaging in the design process to acquire e-learning proficiency***

##### ***Critical incident 3 'New digital literacy practices' (4/2/2013)***

[Five pupils (Group 4) are beginning to film their animation. The camera is suspended upside down on the tripod and the background of the scene to be filmed is positioned directly underneath this. The laptop is on a table beside this. The teacher introduces the technical workings of the basic equipment: camera, laptop and film software "i-Can-Animate" by talking the group through the set-up of the camera, connecting to the computer and switching the computer on, specifically in that order "*camera before computer*" (0:27) or *the computer won't pick up the right camera, MV4*", by demonstrating each step.]

Teacher "Make sure at all times none of the wires are showing on the screen".  
[When the background appears on the screen WayneB3 notices the set is upside down.]

WayneB3 "Múinteoir, it's upside down."

Teacher "You're right Wayne, so you move it until it's the right way around". [WayneB3 proceeds to turn the 'set' on the table. AineG3 watches the screen.]

AineG3 "You might have to zoom out" as she notices the camera is not in focus.



Teacher "You could be right. See if you can zoom out? Do you know where zoom is on the camera? This button here". [To the whole group] "Now you'll have to watch the screen because everything you do with the camera and on the 'set' shows up on the screen". [Áine zooms out as far as she can go but the shot is still not in focus.] "Anyone have any suggestions for what to do next?"

MickB2 "We could lift up the camera a bit?"

Teacher "How will we do that?"

ÁineG3 "Move that up [indicates the tripod]

Teacher "The tripod".

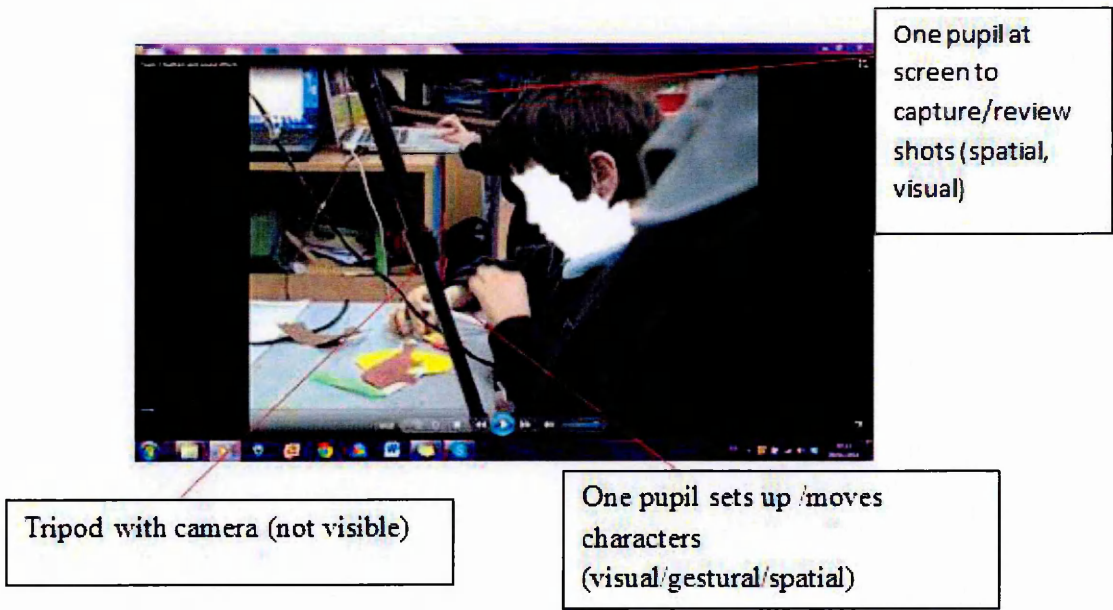
[The teacher continues to actively involve the pupils by guiding them through the rest of the set-up with the pupils performing the actions: moving the camera to correct the focus, how to capture the images and how to delete and how to create a smooth flow of action by taking up to four shots of each movement and then repositioning them on the background, while viewing this on the laptop screen.]

At this point in the animation process, my pedagogical practice had moved from the wider focus of a whole-class lesson to the discrete focus of small group to introduce the technological knowledge necessary for the pupils to film the animation. This incident evidences how I used overt instruction, combining open questioning with explicit information, to introduce the digital practices necessary for 2-d animation and how they looked in practice. The interactive pedagogy apparent in Critical incident 3, through teacher-guided problem-solving and decision-making, enabled pupils to learn the new digital practices essential to the design of animation. Pupils in this incident are already using the metalanguage of animation and engaging in the newly introduced e-learning practice of using a camera enabled them to transform their learning from print versions of their grandparents' stories to the new context of animated films as a way of telling a story.

In designing 2-d animation in our classroom, my overt instruction provided the information on the various animation elements the pupils needed to engage with in the stop-motion filming of 2-d characters on a flat back-ground, while the camera directly recorded into the animation programme on the computer. I found that this vital digital literacy practice, which I termed '*intermodality*', necessitated collaboration. This practice needed three people to

execute, one to place and move the icons on the background (gestural/movement), one to view this scene on the computer screen (visual and spatial/staging) and one to capture the shots to display on the screen.

Intermodality is the combined engagement of the use of visual, spatial and gestural/movement elements of animation design to give the impression of movement. This is exemplified by pupils in Critical incident 3, where pupils were co-ordinating the screen on the animation programme with the actual real-time background. Gestural indicates the stop-motion moving and repositioning of the icons on the background; spatial indicates the skill needed to match/co-ordinate this with the appearance on the screen, *illustrated in Figure 4 below.*



*Figure 4 Intermodality*

*Transmediation* (Mills, 2011a), the fitting of sound to images in the editing process, such as the addition of a voice-over or the timing of sound-effects, was another e-learning skill that I introduced through overt instruction, essential to the design process of animation, which each

group engaged in later in the design process as they edited their films. Transmediation emerged as a tedious process that required precision and timing to accurately insert voice-overs and sound-effects into the film at exactly the right place (6/2/-21/3/2013).

Overt instruction, as illustrated in the critical incident, provided pupils with the opportunity to learn and then practise new e-learning practices as part of the animation design process. This then allowed each group to independently demonstrate their knowledge in the new context of animation.

#### ***4.2.4 Out-of-school experience and situated practice***

##### ***Critical incident 4 'The app' (19 & 21/2/2013)***

On day five of filming their animation, Group 5 were working on the sound effects for their animation, with the teacher listening peripherally. They were looking at the scene with the character returning home from school with a note from the teacher after getting into trouble at school for damaging a bench. The pupils were down to the last sound needed which was a 'fire' (NualaG3, 2:18), to highlight the importance of the action where the mother burned the note from school.

[NualaG3 explained to me they needed a fire crackling sound, which SeánB3 announced he had on his iPod at home. As part of the school e-learning Acceptable Usage Policy (AUP), pupils are not allowed to bring in personal iPods to school but we have twenty in the school. They proceeded to try out other sounds on the iMovie programme but agreed none were suitable. The afore-mentioned app was 'Sleep Pillow' which they requested and I agreed to download.]

SeánB3 "There it is, it should be free"

Teacher "I'm not sure you can take the sound from an app"

NualaG3 "Miss we could record it from the computer and then insert it"

SeánB3 "But I'll need to synch it."

[There is another problem, as the other pupils are using the only Mac computer for animation therefore it is unavailable for synching.]

[To others in group] "Download it at home and listen to it."

[The following day SeánB3, with teacher permission brings in his own iPod and records the sound of the fire onto an MP3 using the mobile microphone which they then insert into the animation.]

This critical incident is a powerful example of how situating practice in an e-learning context such as animation allowed these pupils to access their previous and current experience of technology garnered from home experience, transfer it to school learning and build on this life-world experience, making it integral to their school learning experience. Importing their 'real-world' knowledge, through the app, as an example of situating meaning-making in a real-world context, motivated the pupils to engage productively. Their search for an appropriate sound-effect became a contextually relevant activity, to the extent where they competently problem-solved the dilemma of transferring the sound not only from home to school, but from one device to another in a format accessible for use. This incident pushed me to acknowledge the relevance of out-of-school digital practices of pupils and to review and change the ethos of the school Acceptable Usage Policy. I allowed the iPod to be brought in and used in the classroom setting and thus enabled a meeting point between home and school literacies, which happened as a result of my using the components of multiliteracies to implement e-learning. This policy decision had repercussions for other teachers also. While Critical incident 4 was the stimulus for my decision, discussion and agreement did take place with the other teachers regarding iPods being brought into school with teacher and parental permission.

While most pupils were familiar users of social media, not all pupils had this access to technologies out of school, evidenced in a separate instance (21/3/2013) when AnnaG2 didn't understand a reference to YouTube. It is prudent not to assume all pupils to be tech-savvy, contextual knowledge I needed to be aware of.

The following Table 8 is a summary of the impact of my engagement with multiliteracies pedagogy on my practice.

<b>Multiliteracies component</b>	<b>How I engaged with it</b>	<b>Difference to pre-study practice</b>
<b>Overt instruction</b>	Open-ended questioning	Less pre-determined answers
	Active pupil participation	More teacher-guided than teacher-led
	Provision of explicit information on technology use and the design process	Expansion of pupils' multimodal repertoire
	Introduced the metalanguage of animated design process	Pupil engagement in broader literacy practices. Awareness of storyboards, camera-use, sound effects, sound track
<b>Critical framing</b>	Pupils negotiated decisions about the design process	Generation rather than reproduction of knowledge
	Shared autonomy, teacher stood back to give pupils space	Collaborative peer groups
	Active pupil reflection and evaluative thinking	More problem-solving. New awareness of audience
	Takes risks, trusts judgement	Problem-solving, new ideas, confidence
<b>Situated practice</b>	Allowing use of apps and iPods from home	Drawing on out-of-school technology skills to engage pupils
	Stories from grandparents for historical information	Encourage meeting between pupils' lifeworlds and curriculum
	Animation design process	Links with out-of-school interests for motivation
<b>Transformed practice</b>	Creation of animated films	New representation for curriculum learning/understanding
	Creation of a blog	New and wider audience for curriculum work

**Table 8 Impact of multiliteracies components on practice**

### 4.3 Critical incidents that evidence the nature of pupils' literacy practices

I present and discuss the findings evidenced from my action research through three critical incidents, five to seven, that evidence the nature of pupils' literacy practices when they engaged in e-learning through the implementation of a multiliteracies pedagogy. The inductive analytic process yielded a number of categories which I then narrowed to three over-arching themes of *collaboration*, *agency* and *multimodal design*, building on deductive categories in the literature *social interaction*, *communication*, *peer tutoring* and *multimodal design* (Lee and O'Rourke, 2006; NLG, 2000). I discuss the nature of pupils' literacy learning (communication, interpretation and representation) evident through the practices of reading, writing, viewing, designing, speaking and listening, that I observed as a result of my classroom implementation of e-learning in history through the four components of multiliteracies pedagogy. These practices were manifested both in how pupils were organised for the task and in how they represented their learning, through animated films.

#### 4.3.1 Collaboration: Peer scaffolding

*Critical incident 5 (a) "Reading the story" (22/1/2013)*

In this section, I split the selected critical incident into three parts, 5 (a), 5 (b) and 5 (c)

because although they are all examples of collaboration, each evidences a different aspect of collaboration: peer-scaffolding 5 (a); self-directed participation 5 (b); and role-division 5 (c) evidenced across all groups.

[The five pupils in Group 2 were working independently, seated around a table, without the teacher (symmetrical groups). Their task was to select the content of their animation from the stories they each had gathered from their grandparents about life when they were young. The group was mixed ability. LilyG2, who performs in the low-average range of reading ability, began, orally introducing her Grandpa "*that's his name, he was a farmer*" (pointing to it but not reading it). She struggled to read her story, transcribed for her by her father, but gathered by her through a conversation with her Grandpa. The others sat tensely; her voice was very quiet, her demeanour unconfident.]

LilyG2      "When he was a b...b...boy he worked in a farm...cos that's where he lived.  
[Smiles at LarryB1 and continues after 4 seconds] The s-sec secondary school he was in em...after secondary school he...joined... the navy em...during world war

...em 2". [CaraG3 leaned in beside her]

CaraG3 "Do you want me to help you?"

LilyG2 (accepted) "Yes...I've read there and I'm there" [indicating on her sheet where to read from].

[CaraG3 read the story while LilyG2 held the page, following the story. After a few sentences, LilyG2 then resumed reading and continued to be prompted by CaraG3 while the others listened.]

I selected this particular incident as it strongly highlights the discrepancy in literacy practices within the classroom but also, the collaborative nature of pupils' literacy practices as they scaffolded each other to achieve the literacy goal of the animation task, to read and select a story to animate. The pupils correctly perceived that the goal of this particular session was to gather critical information to make an animated film, not to assess the delivery of LilyG2's reading, which is often the goal of oral reading in a multi-age classroom like mine. Although this session didn't specifically involve technology, deciding the content of the story to be filmed was an essential component of the design process in creating an animated film. This incident illustrates that e-learning was not implemented at the expense of all other traditional literacy practices; I found that the collaborative nature of the design process, through peer-scaffolding, enhanced pupils' literacy practices. For LilyG2, traditional reading was a struggle and she peripherally participated in most history classes prior to this animation project. Her limited participation was exacerbated by the prior individualistic nature of our classroom literacy practices. Despite this she gathered a story, which was also difficult as her grandfather did not live in the country, indicating her motivation to participate in the process of animation. Her story was written down (by her father) and thus her struggle to read it. This also indicates a new feature in her literacy practice, where the collective-endeavour to write (her Father) or read (her peers) was acceptable. Because pupils were collaborating on the design and production of animations, their literacy participation increased in terms of motivation to participate in and engagement with each task.

The critical incident illustrates that the pupils effectively collaborated to achieve the goal of the literacy task, to design an animation using multiple communicative modes that allowed pupils to express what they learned about life in the past. LilyG2 incorporated her element of the story into the finished animation. The peer-scaffolding in this critical incident was common across all five groups. Collaboration through peer-scaffolding allowed pupils to participate more fully and agentively in literacy practices of reading.

**4.3.2 Collaboration: self-directed participation**

Evidence throughout Cycle 1 (Jan-March 2012) and Cycle 2 (Jan-April 2013) suggests pupils’ literacy practices moving from traditional print to e-learning practices. Self-directed participation also became more evident and was facilitated through the collaborative multi-age and ability composition of the group. My role became less visible as the process developed and the pupils became more expert at animation design. Pupils learned from each other and freely engaged in collaborative discussion to share and critique their ideas and to scaffold each other, even in the simplest form, evidenced here as Group 2 engaged in the e-learning practice of intermodality to edit a scene, four weeks after Critical incident 5 (a) where LilyG2 struggled with reading.

*Critical incident 5 (b), 21/2/2013, 14:34*

LilyG2	“Guys I can see a shadow from his hand.” [Looking at the screen]
TimB2	“Maybe we could go over the cow as well, I can’t really see it.”
KiaraG3	“Yea but we took our first shots.” [Referring to continuity of appearance]
LilyG2	“I can’t see the eyes.”
KiaraG3	“Here’s what we have. Do we need to cut it or not?” [Referring to notes on the storyboard. LilyG2 and TimB2 stay at the screen].

Pupils negotiated and reflected throughout the animation about the content and also the presentation of the content. The change in LilyG2’s confidence in participation is very apparent as she engages in the e-learning literacy practice of intermodality, where she



critically views the screen and clearly communicates the mistakes to the others. While she was quiet and reluctant to read (22/1/2013), here in contrast, she was capable of competently directing the action as the previous extract illustrates where, fully engaged in the task of reviewing the screen, she stops the animation as she notices a discrepancy on the screen, unnoticed by CaraG3 on the background set. After the group agreed to re-do the short scene she confidently continues by scaffolding CaraG3 in correcting the character on the background (17:07).

LilyG2      "Over, no, down. I think we got it now. Push up the hair a bit" [as CaraG3 follows her guidance and moves the character on the screen.]

e-Learning and the collaborative nature of the animation clearly facilitated a turn-around (Comber and Kamler, 2005) in pupils' literacy practices to full participation and self-directed action, particularly exemplified by LilyG2. Pupils' interactions illustrate clearly the fluidity of participation between novice and expert roles within the collaborative groups, and how this facilitated multiple ages and abilities.

#### ***4.3.3 Collaboration: designing for participation***

Throughout the process in Cycle 2 (Jan-April, 2013), the democratic way decisions were made or roles were assigned was strongly evident in designing animation. Collaborative participation was the implicit expectation in all groups, and pupils worked inclusively and effectively to create the animation, despite notable discrepancies in ability and age. As the e-learning task necessitated division of labour, pupils designed their tasks to maximise inter-changing roles and pupil contribution to each section of the film-making process, ensuring each pupil participated, as the following excerpt following on five days from critical incident 5 (b) shows.

*Critical incident 5 (c) Team2, 26/2/2013 10:53*

LarryB1      "I'm doing the moving."

KiaraG3 "Right. I'll do the previewing" [goes to screen. Points to LilyG2 and LarryB1] "You're?" "[Looks questioningly at them]"

LilyG2 "Eh, alright. I have all my scenes done." [Indicating she's free to help LarryB1 to animate the scene.]

CaraG3 "I'll make the arms. Can you colour them?" [She asks KiaraG3]

LarryB1 "I don't want to colour."

CaraG3 "Right ... you do this [points to moving the characters on the background] and I'll make what we need. Alright? [To LarryB1, the youngest member, who nods yes.] Are we ready?"

Having no status within the team was a strong feature of each collaborative group. Evidenced here is the importance that pupils attached to everyone having a role and participating, regardless of what they did. This was crucially different from pre-study practice, where the design of classroom tasks where pupils independently determined and wrote down important facts, facilitated only the most independent pupils, leaving other pupils, such as LilyG2 struggling to complete tasks. Pupils leveraged this participation and inclusion through the levels of expertise they denoted to each member and in how they organised activities and turn-taking to facilitate helping the younger pupils to gain experience.

There was ample evidence throughout the action research process that collaborative discussion and negotiation through question posing and responding drove the animation process. Sharing and transformation of ideas was evident throughout as pupils negotiated the content of the animated films and then how best to represent their characters and learning.

These collaborative conversations helped to transform the action and through questioning, reflection, exploration and imaginative activity, the pupils solved technical problems as well as create unique animated films to represent their learning in a novel but relevant way.

The features of how pupils listened and spoke in negotiating collectively the content of their animated films were evident. Later in Critical incident 5 (a) LilyG2 commented "*I think we should mix them (the stories) up*" with KiaraG3 agreeing "*If we have just one story we*

wouldn't be learning a lot". They proceeded to critically negotiate as a group whether to singularly select one story or incorporate elements of them all. They eventually voted to let everyone pick a different aspect of their own story to animate, which they then combined into one animated film. Everyone contributed a part and pupils collaboratively negotiated ideas and suggestions, in a conversational way, to consensually agree on a story to animate. This was a common approach throughout the groups, with speaking and listening practices altered from the formal whole class pre-study practice of raising hands for permission to enter a discussion, to freely entering peer conversation. This tended to revert back to hand-raising whenever the teacher entered the conversation.

#### 4.3.4 Agency

*Critical incident 6 'The teacher slaps' (22 & 28/1/ & 13/2/2013)*

This incident evidences agency in the pupils' literacy practices, in their use of higher-order thinking skills. Their approach in critically evaluating and reasoning through their agentic peer negotiation of the content of their story, is in sharp contrast with the lower-order skills pre-study practice of unquestioning dependence on the text book to acquire and comprehend pre-determined information. Here pupils are situating their knowledge and information within the historical context of their grandparents stories, which they value as 'real' and delve deeper into meanings beyond the text, self-determining the content of their own animations, such as in the following extract.

[Group 5 sat around a table to share the stories they had collected from home to select information to animate. They had three as there were sick grandparents in two of the pupils' lives. NualaG3 began reading.]

- NualaG3 "Granny broke the leg of a form, which is a school bench, and she got into trouble. She got three hard slaps and when she got home her mother threw the note from the Master into the fire and didn't even look at it. Another bit is my Granny used to bake bread on an open-fire with a three-legged skillet." [The group continued until all stories were shared.]...
- SeánB3 [smiling] "I like the bit where she threw it in the fire".

SéamusB3 "Yea when she got a letter for being bad your Granny...her mother threw it in the fire".

ClareG2 "It's good where she is slapped".

NualaG3 [pointing to SeanB3] "I like the information in yours about the duck egg as an Easter egg." [All agree.]

SéamusB3 "I'd say my part where they went to football, handball and boxing all in one day."

NualaG3 "What do you think ChloeG1?" [She shrugs, unsure.]

SéamusB3 "We're putting them all in together" [choosing a piece from each story]

ChloeG1 "Nuala's bit here [indicates first section on page about the school story.]

ClareG2 "I think so too". [All agree to animate this element of Nuala's story in their film.]

### ... Story-boarding 28/1/2013

SeánB3 "You need to show her getting slapped first though so that they'll (audience) know that she's in trouble."

ClareG2 "Yeah, It'll be too hard to show her breaking a firm [sic] (bench)."

NualaG3 "She could say that or something?"

SeánB3 "Yeah maybe."

### ... Filming Scene (26:40)

[Pupils film the scene where the note is burned on the open fire. SéamusB3 questioned why the parents would burn the note as he announced "*I'd be killed*" [if I got in trouble]. Both Seán3 and Nuala3 justified this action by iterating "*teachers were very mean back then*".

Pupils didn't merely pick what they wanted to include but through discussion, evaluated the stories for the best information (duck eggs, getting slapped in school), considering the audience in making their selection criteria explicit. Here, pupils act with agency, using reflective evaluation to decide the content of their film, critically framing it in the context of the time it occurred in "*teachers were very mean back then*" and agreeing on how the information was to be framed, independent of the teacher. Even when I questioned the inclusion of the classroom/teacher in their overall story, later in the session (28/1/2013), they justified the group rationale to include the classroom in order to tell the full story, critically framing their content in relation to the perceived audience. In contrast with this, pupils in Group 3 (22/1/2013) unanimously rejected the inclusion of "*Granny [getting] slapped for*

*bad writing*” (EveG2) in their animation as “*going too far*” (JoanG3, 22/1/2013). Both groups critically framed the information in the overall context of their story and in terms of the audience to whom they were directing the meanings; Group 3 understood the emotional impact slapping may have on their audience of peers and thus considered it as ‘too far’. This is in stark contrast to pre-study practice where there was no level of criticality in terms of audience, as the teacher (me) was the only perceived audience. Pupils collaboratively negotiated and self-determined how they would approach the animation and therein exercised agency in whether to include or exclude, whatever they agreed on, based on the stories given, indicating agentic literacy practices in determining and designing the content of their learning rather than passive acceptance of pre-determined facts. The youngest pupils were guided by the older pupils throughout and needed to be coaxed into criticality. No group consulted the teacher about decisions on the content. All my interventions (Appendix 14) were for technical issues or appraisal of work completed.

#### **4.3.5 Multimodal design and problem-solving**

##### ***Critical incident 7 “Opening the door” (6/2/2013)***

Group 4 were the first to begin filming their animation. One of their scenes necessitated their main character to walk into a bakery shop, which posed the problem of how to animate this realistically in 2-d. The teacher intervened, after being requested by SéimíB1.

- |         |  |
|---------|--|
| Teacher | “How do you think you’ll do that?” [Inviting them to discuss and share ideas. Firstly WayneB3 (who performs on a low level in traditional literacy tests) suggests moving her towards the door, taking shots at the door and then removing her from the shots, which would have the effect of ‘disappearing’. The teacher then posed the question “Does she just disappear?” [Among other suggestions were, to add a rectangle the same colour as the door bit by bit to cover her, developing the initial idea.] “Could you just add a door now that hasn’t been seen?” |
| WayneB3 | “Work a way to open the door and get her to go in bit by bit”.   |
| Teacher | “So what’ll you do?”   |
| WayneB3 | “Cut it open” [the door was painted onto the 2-d background. All excitedly agree to try it.]   |
| MickB2  | “Cut that and that side and the bottom edges” [pointing to the top, side and   |

bottom of the 2-d door. The teacher finally slit it with a blade when pupils decided that a scissors wouldn't suffice.]

WayneB3 "You can't get it bent [the background]". [Pupils proceeded to film the girl disappearing through the slit door bit by bit.]

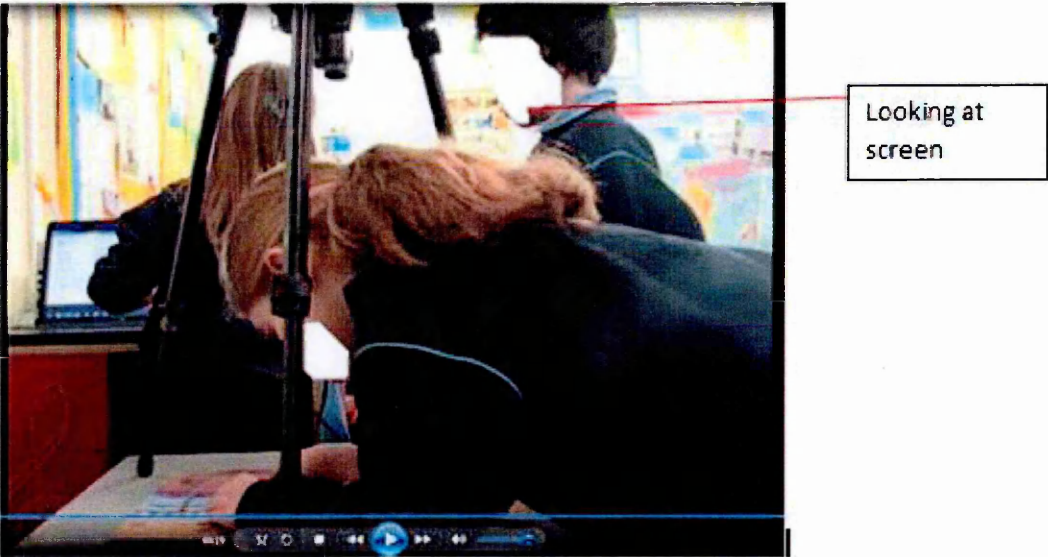


Figure 5(a) Capturing the shot

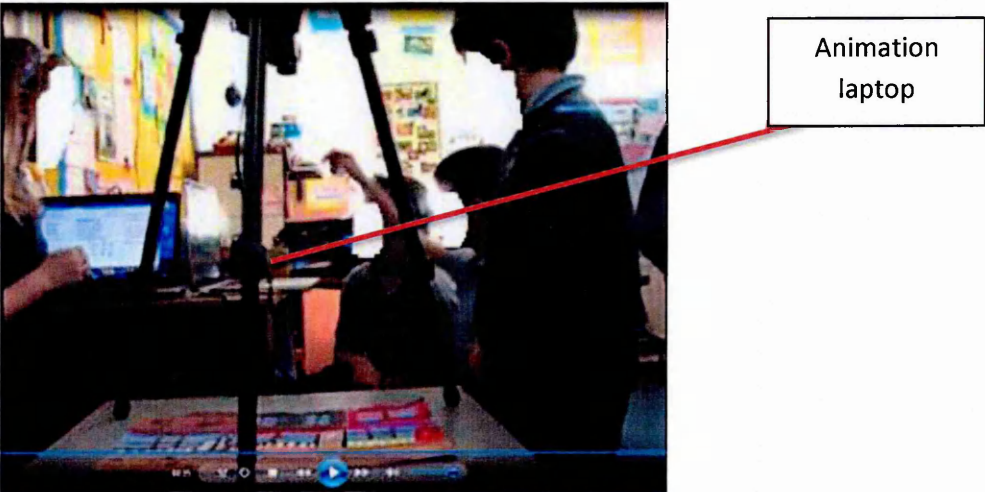


Figure 5(b) Reviewing the shot

This critical incident evidences the multimodal design of the pupils’ literacy practices which facilitated more engaged and flexible thinking and communication, where through posing questions, the pupils worked through many possibilities to problem-solve the issue of creating a 2-d spatial impression of walking through a door. The interchange of question-posing between the teacher and pupils evidences the combination of negotiation and question

posing, that I used to stretch their thinking. By constantly posing questions, pupils had to evaluate their suggestions and develop them further until they found a solution to the problem. This is evidence of pupils engaging in critical and evaluative thinking skills to solve the problem, maximising the potential of their new e-learning practices to achieve what they wanted to show. Not only was this 'slit technique' an essential development in the multimodal design of their own animation, but it was a technique employed by other groups, transformed from its initial use to show the girl walking through the door to showing hay disappearing into a mattress (Group 2, 5/3/2013), people entering a TV rental shop (Group 1, 22/2/2013) and the roof blowing off in a storm (Group 1, 26/2/2013). Multimodal practices were not exclusively digital. All 2-d parts were first drawn, painted/coloured and then cut out. This led to some issues with parts getting lost, being too small and a lot of time was spent on this in each group. Future possibilities could include using digitally produced images.

#### **4.4 Analysis of video-recordings of classroom practice**

In this section I present my analysis of selected video-recordings of my classroom practice to answer my third research question, does using a multiliteracies pedagogy foster the teacher's creativity (as a pedagogue), and if so, in what ways? I looked at video-recordings of 43 sessions of classroom practice over a timeframe of four months where my teaching was most explicit, which I then examined for creative teaching. I discuss findings in relation to the features of creative teaching that emerged in my practice, based first on the deductive categories of *shared control*, *standing back*, *improvisation*, *open-ended challenge*, *making connections/relevance*, *shared ownership* and *originality/innovation*, and my inductive categories of *enlightened spontaneity*, *shared evaluation* and *360° observation*.

#### 4.4.1 Shared control

Video-recorded data of my practice where I explicitly used overt instruction evidences *shared control* of the design process of animated film-making as a feature of creative teaching. This occurred in two ways, through 1) formal teacher-led sessions and 2) informal timely guidance evidenced throughout the collaborative groups as teacher-interventions. This extract from a teacher-led class lesson (18/1/2013, 17:19) illustrates me using overt instruction, through open-ended questions, to teach ‘how-to’ make an animation. We critiqued the multimodal elements of a stop-motion animation by exploring the use of visual to establish location.

Teacher	“Where do you think she’s going for walk with the baby?” [Teacher pauses the frame on the screen. Nine (visible) pupils raise their hands excitedly calling “Miss, Oh Miss!” Teacher gestures to an unseen pupil who answers ‘the park’.]
	“What gives us an idea it’s the park?”
Unseen pupil	“The trees”
Teacher	‘So they show us it’s definitely?’
KiaraG3	‘The park’
Teacher	‘and it’s set...?’
Pupils	‘outside!’
Teacher	‘Did you notice that? All those things show us she’s outside.’
LilyG2	‘Miss what’s that? What’s that there?’ [Pointing at the screen from her seat]
	‘That yellow part?’
Teacher	[to class] ‘What do you think the yellow part is?’ Lots of suggestions are shouted together.
NualaG3	‘Grass?’
SeamusB3	‘Sand? The grass is not yellow.’
Teacher	‘Ok, maybe it’s sand. Ok hold on.’ [to all talking together] ‘Lily, since grass is not yellow, what would you do in that scene to show it’s a park?’
LilyG2	‘Em I’d put in swings.’
WayneB2	‘and a slide.’
Teacher	‘Ok So Lily is looking at this and saying that’s how I’d show that it’s a park. That’s what you need to do when you’re making an animation, you need to look at it just as Lily is now and say ‘how will the audience know that this is a park?’

I evidenced the feature of creative teaching *shared control* where I, as teacher, foregrounded pupil participation and responsibility, provoking responses by posing questions such as “what



do you think?” and “what would you do?” This demonstrates trust in and respect for pupils’ ideas, a central aspect of shared control (Chappell, 2008; Jeffrey, 2006; Sugrue, 2006a).

By posing questions to initiate discussion, encouraging pupils to participate, pose their own questions and consider reasons why certain features, colours and content of animation were used, sharing control of learning with the pupils was fostered.

My overt instruction, while outlining clearly the necessity to include clear visuals to establish a location, was not transmissive or passive, and although teacher-led, this facilitated sharing control of learning with pupils. It is evidenced throughout the design process in my practice.

My question-posing facilitated the pupils to critically explore and discover for themselves the multimodal aspects of creating an animation such as the inclusion of relevant images and colours (trees, bird, paths) to convey clear messages for the viewer. This also guided the pupils in framing the animation in relation to the intended audience, “*how will the audience know this is a park?*”. Use of open-ended question-posing stretched and challenged my young pupils’ thinking to come up with their own ideas. This was exemplified when I asked LilyG2 above, ‘*what would you do in that scene?*’ and she replied “*I’d put in swings*”. This pedagogical interaction facilitated pupils in making connections with their own experiences (swings and slides in the park), another feature of creative teaching (Cremin, 2009) and thus increased pupils’ control of their learning by drawing on their funds of knowledge (Moll et al., 1992).

I also overtly encouraged the democratic operation of groups, which is how shared control manifested organisationally. This was important for the participation of all pupils given the multiplicity of their age and ability. I evidenced this where I insisted on groups listening to each other and giving each other the chance to express a variety of ideas, as the following extract from the same lesson illustrates.

Teacher "Do you all agree with that?" as JG3 made a suggestion...

"Hold on we all take turns, if we all talk together we won't hear anyone.

Listen to all the suggestions" as they excitedly talked together...

"LauraG1 what do you think?" explicitly including a younger member even though she hadn't volunteered.

This was subtle overt instruction but effective action, as evidenced later in the collaborative groups where the pupils worked to ensure full participation and where my role lessened, through *standing back* (Cremin et al., 2006) and their agentive role increased.

After the initial formal teacher-led introductory lesson, pupils participated collectively, taking control of and responsibility for each section of the animation process, from story selection (21-22/1/2013), story-boards (28-29/1/2013) to animating and editing where they freely moved around the filming station (4/2/2013-21/3/2013). Older pupils across the groups tended to direct the collaboration though this lessened as time went on and younger pupils became more confident. Analysis of video-recorded data evidences the need for overt instruction as explicit information lessening and that I was sharing more control over time. I evidenced this as peer-scaffolding, illustrated in the following interchange as pupils animated.

Pupils shared control of the teaching by teaching each other, collaboratively exploring suggestions and thus learning how to speed up the action by reducing the number of shots taken.

*Group 4 (6/2/2013, 44:30)*

The group need to speed up the action of a character from walking to running.

MickB2 [Looking at the screen] "There's five shots now for each clip. I don't think it should be five? [unsure]

AineG3 "Just take two then" [Mick takes two]

WayneB2 "We just took two" indicating it's done.

JimB1 "It was three there." [Looks at previous clip on the screen]

AineG3 "Just try and see." [They continue and all look at the screen to preview the shots taken.]

"She's faster!" indicating that the character was running and they had solved the problem.

As I gradually released control, my teaching became more timely guidance; informal interventions where I spontaneously intervened in groups as I saw the need arise, resembling the notion of 'stepping forward' (Craft et al., 2012). Timely guidance such as this was frequent throughout the design process and led to several teachable moments (Newman, 1991), while still nudging pupils towards autonomy, such as in the following extract when Group 3 were creating storyboards to depict shopping in the past and transport to the shops (28/1/2013, 13:16).

- |         |  |
|---------|--|
| Teacher | [interjects] "How are we doing?" as she looks at their input. "That's a shop-front. Is that what you're going to call it? And you have a horse outside as that's how people travelled then I like that." |
| PollyG3 | Laughs. [Teacher looks puzzled.]<br>"Miss it's a donkey."  |
| Teacher | "Oh it's a donkey." [All laugh.] "Maybe when you're making it you'll make that clearer."   |
| EddieB2 | "It's ... small! "   |
| Teacher | "So what have we learned here? When you're making them?"   |
| PollyG3 | "They need to be clear and bigger."  |

This collective participation further evidences the creative shared control of the process, where pupils organised themselves and the content they selected for their animated films and I respected and trusted those ideas. This was difficult at times, as above, where I could clearly see the visual representations would not be clear enough. However, I encouraged pupils to think about how the audience might understand the images (O'Rourke, 2005). My shared control of the process, a feature of creative teaching, enabled and encouraged pupils to trust and take responsibility for their own ideas through timely guidance, such as to make their drawings clearer. The pupils were then better able to take control of their own ideas and clearly represent them in their animation.

#### 4.4.2 *Standing back*

Overt instruction in critiquing animation through question-posing also provided me with an opportunity to ‘*stand back*’, a deductive category I derived from the creative teaching literature (Jeffrey and Craft, 2004), which increases pupil inclusion, participation and shared control. In this extract (5/3/2013, 42:03) I model the importance of social and inclusive involvement through standing back.

The pupils review the scene with CiaránB3 operating the computer.

- Teacher     “He’s using the pitchfork. Is he not going to pick it [hay] up in his hands? What do you think?”
- AnnaG2     “No. Now he’s going to put it in the mattress.”
- Teacher     “That’s good. So he’s putting it into the bed here [all smiling]? Be more careful cutting out, there is a lot of white outline visible on the bed. Cut them off ...or else you could paint the bits you can’t cut out? What do you think?” [All shrug uncertainly.] “How will you [group] make it look like it [hay] goes into the mattress?”
- AnnaG2     “Actually it’s a hay bed”.
- JohnB3     “Maybe we could make it disappear?”
- Teacher     “How? What would you do?” [All think.]
- AnnaG2     “Slit it!”     [All agree.]
- Teacher     “Tell me when you’re ready and I will slit it for you.” [Leaves group to prepare the scene.]

I explicitly stood back from taking the lead and passed this responsibility to the pupils, who then came to the fore and collectively participated. Although I gave advice, I stood back by not solving the problem for them and I shared control through teacher use of phrases such as “*what do you think?*” “*How will you...*”. This interchange evidences me standing back from decisions, but intervening where I encouraged pupils to be autonomous and to collectively make decisions, balancing structure and agency, (Cremin et al., 2012). I explicitly created time, space and the expectation for pupils to explore their own ideas which epitomises creative teaching in a learner inclusive approach (Jeffrey and Woods, 2004). Although I gave advice, I stood back to allow pupils freedom to develop their own ideas, and to make

mistakes, within their peer groups. As I left after the previous interchange, the pupils reviewed the entire scene and collectively agreed to re-film it to correct their mistakes.

CiaránB3(44:29) [Continues to review the screen] "Guys we may have to delete the whole scene. His leg is gone like that. [He walks crookedly. Anna stays at the set while the others review the screen.] "You can see it there. His hip is not good."  
JohnB3 "Just delete that part."  
CiaránB3 "I can see a big jump." LisaG1 agrees. "Who cut out the bed?"  
AnnaG2 "Do we do everything again?" [Exasperated]  
All "Yes!"

Standing back was not always easy to do and required personal discipline as teacher. The animation process took longer when pupils were given space to solve their own problems, as above, and it certainly would have been more time efficient if I had instructed pupils to correct mistakes as I saw them, such as the bed above, or if I simply told pupils how to create the effects rather than giving them time and space to discover this for themselves. However, my teaching in standing back supported pupils' ownership of their learning. My remarks and actions encouraged pupils to give their own opinion and act through reflective negotiation with the group. I posed questions rather than imposing solutions, standing back to allow pupils to generate new ideas and steer the direction of the design process. Standing back provided time and space to allow pupils to make decisions, affording pupils increased ownership of the learning tasks.

#### **4.4.3 Improvisation**

I evidenced my teaching as a responsive and improvised action where the needs of the pupils, overt or covert, determined my reaction and resulting courses of action, also a feature of creative teaching (Sawyer, 2004). Given the multiplicity of ages and ability, standing back was not always the most appropriate course of action. My *improvisation* was evidenced as 'spontaneous' interventions by me and were based on my situational and contextual knowledge of the pupils. I also coded this improvisation '*enlightened spontaneity*', and it

emerged where, at the beginning of each session I had not planned every intervention, therefore they were unplanned and, to an extent, like *improvisation* (Sawyer, 2004), a feature of creative teaching. These occurred as the need for guidance arose. On close analysis of 96 what appeared to be spontaneous interventions (over 29 hours), each one wasn't completely spontaneous. They were instead found to be informed and enlightened by my knowledge of the context and the pupils' needs, such as literacy difficulties, social difficulties or the inclusion of younger and novice members. Analysis indicated it was this *enlightened spontaneity* or *improvisation* that determined the degree of control I shared with pupils within their groups; whether I intervened or stood back. The following transcript (21/1/2013, 5:41) is evidence of my improvisation, where I responsively aimed to balance the nature of my teaching between standing back and intervening, in order to ensure the fullest participation from all pupils.

WayneB3 performed in the low-average range of verbal comprehension, expressive vocabulary, reading and spelling, and also found it difficult to put words on paper, in traditional literacy practices. This was evidenced throughout the film-making process, most notably where he was reluctant, even verbally to relay his story collected from his grandfather, about life when he was a child. His group of five were seated around a table and worked independently to share their stories. Each pupil read their own story in turn.

AineG3	"WayneB3 do you have anything?" [After a lengthy, eloquent story ready by herself]
WayneB3	"No".
AineG3	"That's ok" [The group proceeded to negotiate which parts to include in their animation. Five minutes later I intervened, uninvited.]
Teacher (11:51)	"Now have we settled on a story here?" All nod "Yeah."
JimB1	"Aine's."
Teacher	"Ok next we'll look at a storyboard. Are you taking all the information from Aine's?"

- AineG3        "We're taking a bit from everyone's. We're using our imagination but one character is from mine."
- Teacher        "Good, you've started to create characters. Did we hear anything from WayneB3? He had a story to tell. Did you tell them WayneB3?"
- WayneB3       "No."
- Teacher        "Why not?"
- WayneB3       "Cos I didn't really have much to tell."
- Teacher        "Well I think it would be really important for you to tell even the little bit that you had. It might be a detail that you could put in?"

Despite reiterating that pupils could collect a story in any form they wanted, I myself had not considered an unrecorded oral format as sufficient until I engaged in this study. Had I not been collecting recorded data for my study, no doubt I would have dismissed WayneB3 as not having done his homework and not collected a story. But being aware of his (traditional) literacy difficulty, engaging in improvisation, I monitored and responsively intervened to encourage him to participate. I was aware he did have a story but wasn't confident enough to share it and I needed to encourage the group to be inclusive of his oral contribution. This improvised intervention requested his contribution to the group at this stage of the process and heightened his participation in the design process.

Later in the process, he became much more confident in guiding, directing and sharing ideas, as illustrated by his contribution in 'opening the door' (Critical incident 7, p.110). This powerfully illustrates that improvised interventions combined with my contextual knowledge of his difficulties, allowed WayneB3 to contribute his story. The animation process allowed him new opportunities to collaborate. Teacher creativity evidenced as improvisation or enlightened spontaneity, supported him in participating and encouraged him to take ownership of his own story, indicating the interconnectedness of literacy practices and creative teaching.

#### ***4.4.4 Open-ended challenge***

The required design process of an animation by pupils, on analysis of video-recorded data, bore the characteristics of an ‘open-ended challenge’ or process (Thomson et al., 2012; Jeffrey, 2006) as a feature of creative teaching. It was difficult to evidence this as instances that could be transcribed, but instead ‘open-ended challenge’ emerged as a concept, like transformed practice, where pupils had the choice and the resources to generate meanings from the stories, driven by their own interests (Mills, 2011a). It embodied the previous features of creative teaching, shared control, standing back and improvisation. This was evident across the animation design process as pupils selected stories (21-22/1/2013), generated story-boards (28-29/1/2013), created and represented characters through animation (4/2-21/3/2013), the outcomes of which were not pre-determined but open-ended, the process itself generating the history learning as pupils rose to the challenge. Video-recorded data also indicated that although animated film-making was an open-ended challenge, it was not ambiguous or a ‘do what I want’ challenge. There was an element of structure in the process of selecting stories, storyboards and creating the animation itself, but it wasn’t rigid and was characterised by improvised interventions. The need for balance between structure and agency (Cremin et al., 2012) to allow full participation became evident, highlighted by the discrepancy in ages and abilities of the pupils, as discussed in the features of shared control, standing back and improvisation.

Although pupils had shared control and ownership of the learning and representation of this learning in their peer-led collaborative groups, I also engaged in what I coded ‘*360° observation*’, to closely overview the teaching and learning throughout the classroom without necessarily being involved with each group, a type of ‘crow’s nest’ teaching (Sugrue, 2006a). I evidenced that this observation allowed me as teacher to relinquish my pre-study teacher-led role, and to balance the open-endedness or freedom with structure. ‘*360° observation*’, evidenced from my video-recorded data, emerged as my need to multi-task in a busy



classroom, to be on high alert; to simultaneously teach the rest of the class and yet have an awareness of when guidance was needed when I was not directly working with the pupil-led groups. This was evidenced consistently in video-recorded data of every group throughout Cycle 2 (Jan-April, 2013), where I was teaching the main class group but I spontaneously intervened, or responded to pupil-initiated intervention when animation groups needed guidance (Appendix 14). Many interventions simply consisted of asking “*How are we getting on?*” and affording the group reflective opportunities, but ‘360° observation’ evidences how my practice, through the open-ended challenge of animation, transitioned from being teacher-led to responsive, improvised, shared control of learning tasks with pupils.

#### 4.4.5 Making connections/relevance

Situating history teaching and learning in gathering ‘real’ stories from their grandparents allowed pupils to *make connections* with their life-worlds and funds of knowledge (Moll et al., 1992), thus making learning relevant to pupils, also a feature of creative teaching (Cremin, 2009; Jeffrey and Craft, 2004). In this transcript from my practice (22/1/2013) the pupils made links with their personal knowledge about the significance of chocolate eggs at Easter and why this was different in the past.

Group 5 were working on their stories, having decided to select relevant parts from each one.

After five minutes the teacher spontaneously intervenes.

Teacher	‘So what kinds of things do you have?’
SeánB3	“I learned they had no running water or power back then.”
Teacher	“Ok so something like that is important to show.”
NualaG3	[raises her hand] “I found out from Sean’s story that they got a duck egg for Easter’. [All smile and show surprise. Reacting to this,
Teacher	“Do you think the children were surprised at that? Were they used to that?”
SeánB3	“I’d say they were used to it back then.”
Teacher	“Why? Did they have chocolate? [All unsure] Did you ask Granny?”
SéamusB3	“Maybe they had none...or no money?”

Making this connection led pupils to question why the custom was different and the socio-economic climate in their grandparents' time, engaging in more critical and evaluative thinking. Had the detail not resonated with their own lifeworlds, pupils would no doubt have accepted a duck egg for Easter as an unquestioned fact. Situating practice through making connections with grandparents' stories made the learning experience more personal, emotional and relevant. By connecting personally, pupils were enabled to better understand history.

Equally, situating pupils' history-learning in designing animated films fostered creative teaching by making learning relevant to pupils, enabling them to make connections to their lifeworlds through their 'real-life' experience and knowledge of technology. This was evident when the pupils in Group 5 wanted to look for a sound effect for the fire which featured in their animation (19/2/2013, 2:18).

NualaG3 "We need a fire sound...to hear crackling."

Teacher "Could you import one?" (to the effects library on iMovie) [NualaG3 looks doubtful.]

SeánB3 "I've got one on my iPod...I've got an app with that sound on it."

Situating the history task in animated film-making allowed these pupils to connect the personal and academic; out-of-school to in-school learning experiences to better represent their learning in animation.

In allowing pupils to select their own music for a sound track, the pupils' could connect to their own experience of music.

(Group 5, 22/2/2013)

NualaG3 [going through the list of music on iTunes in iMovie] "Hey look at this Vivaldi 'spring'." [hums the theme]

SeánB3 "Show me...we could use that cos it's spring and it's Easter."  
[Others agree.]

ClareG2 "It could go at the start where the egg is?"

In this instance pupils made connections between curricular areas. In music class they had been learning Vivaldi's 'Spring' and agreed the theme would be appropriate to connect the audience to the setting for their history animation. Situating the history learning in animated film-making based on Grandparents' stories proved to be relevant to pupils and enabled them to make strong connections between personal (lifeworlds), emotional and curriculum learning experiences, unlike their pre-study history learning. This design process allowed teacher creativity to flourish.

#### **4.4.6 Sharing ownership**

I found evidence of opportunities for shared *ownership* (Jeffrey and Craft, 2004), where pupils' belief in their ideas enabled them to take ownership of their learning experience, an additional feature of creative teaching that emerged from the literature review. Shared control, while similar, provides the opportunity to express this ownership. Pupils critically selected and justified the content of their animations from their own stories and framed this to portray lifestyle differences in the past, increasing the relevance of the history learning to their own lives and thus ownership. Critical framing of their content in terms of the audience afforded pupils shared ownership by my fostering an environment of enquiry, guiding the pupils in designing the content of their own animation, encouraging them to question the 'why' of their stories to uncover deeper meaning, at times independent of the teacher. This type of shared ownership of the content of their stories/animations was evident as pupils negotiated the need to depict the teacher slapping a child and the parent burning the subsequent note from the school to frame the context of their history learning, as illustrated in the following transcript:

#### ***Story-boarding (Group 5, 28/1/2013)***

The group had chosen the following content from NualaG3's story where her granny broke

the leg of a school bench and got into trouble. She got slapped but when she got home her mother threw the note from the Master into the fire without looking at it.

SeánB3     “You need to show her getting slapped first though so that they’ll (audience) know that she’s in trouble.”

ClareG2     “Yeah, It’ll be too hard to show her breaking a firm [bench].”

NualaG3     “She could say that or something?”

SeánB3     “Yeah maybe.”

#### *Filming Scene (12/2/2013, 26:40)*

Pupils film the scene where the note is burned on the open fire.

SéamusB3 questioned why the parents would burn the note as he announced “*I’d be killed*” [if I got in trouble].

Both Seán3 and Nuala3 justified this action by iterating “*teachers were very mean back then*”.

The pupils combined these selected elements in the finished animation, exemplifying critical literacy, where they took ownership of this opportunity to create their own version of a story, based on the facts from their grandparents’ stories, to demonstrate their new knowledge and to educate their intended audience of peers. Through critical evaluation of the story, pupils realised the slapping incident was important to show. They also connected the parental reaction to being slapped in school to their own lives. I, as teacher, had designed the animation task to increase pupils’ responsibility for their learning, through this selection of content from their grandparents’ stories which was relevant to their own lives, rather than pre-determined knowledge from a text book, which worked well in this aspect of their history curriculum. This *shared pupil ownership* of the learning is evidenced where selection of the content for the strand unit in history was largely generated through pupils’ critical evaluation of their grandparents’ stories. This new approach creatively afforded both pupil and teacher shared ownership of the curriculum learning experience.

#### 4.4.7 Originality and innovation

This extract from a whole class session (21/3/2013, 10:21) was led by the teacher, to guide pupils' choice of music for their sound track and how pupils might share their animations and illustrates creative teaching as *original* and *innovative* (Cremin, 2009; Craft and Jeffrey, 2004) by experimenting with the affordances of e-learning and introducing a wider social element to the animation design process.

Amid a discussion on who should share the viewing of their animations,

NualaG3 suggested posting them on our school website.

- NualaG3 "We could have a link so they [audience] could put comments." [General excitement in class]
- SeánB3 "You-tube! Like when you go into a video there's a section on the bottom for views and there's how many views..."
- Séamus B3 "And Miss, comments too!" [WayneB3 waves his hand anxious to contribute.]
- LilyG2 "And Miss there's something...there's thumbs. You know thumbs up to show if you like it and you can see how many people comment."
- Teacher [to class] "Would you like to do something like that?" [All unanimously agree. Teacher suggests a blog.]

This transcript evidences the teacher acting with *innovation*, a feature of teacher creativity, by opening up the animated films for shared evaluation by peers, grandparents, parents and the wider community by situating this evaluation in a blog. The pupils were given a unique opportunity to bridge their out-of-school knowledge of digital social media with their transformed digital literacy practices in school by suggesting they upload their animations to this blog. The original notion of sharing their animations through technology relevant to their lifeworlds enabled LilyG2 and SeánB3 (noted for low achievement in relation to traditional literacy) to participate strongly and convincingly in this class discussion. They could demonstrate their knowledge of out-of-school literacy practices never measured in school, as well as confidence in expressing ideas orally, seen regularly throughout the multimodal process. This suggests that not only were pupils aware they have an audience (number of hits)

but were confident enough to receive feedback beyond the security of the classroom, from an authentic, critical audience.

Pupils did not want to be patronised and needed a wider authentic audience to increase resilience, to share evaluation by opening themselves up to feedback from outside comments. To harness these needs, and mindful of the need to develop pupils' critical awareness of the intentions of other public social media users, I set up a class blog 'schoolcartoonz', filtered through an education rating, and moderated by me, in terms of allowing comments, due to the young age of the pupils. To do this, I also had to be open to this new idea and to take a risk, acting as a learner alongside the pupils in setting up and maintaining a blog. The creation of a blog exemplifies *originality*, a feature of creative teaching (Cremin, 2009), in sharing evaluation, making learning an occasion (Thomson et al., 2012) in celebrating and appreciating the pupils' transformed digital literacy practices. It was original in the sense that it helped pupils understand what was valuable in their learning by opening it up to the public. This approach to evaluation was both learner inclusive (Jeffrey and Craft, 2004) and innovative (Woods, 1990) in terms of utilising digital media and increasing the relevance of e-learning for assessment of learning.

#### **4.5. Analysis and discussion of the data from interviews**

In the following section I present my analysis from teacher-conducted pupil-interviews to answer my second research question in relation to the nature of pupils' literacy practices when they engaged in e-learning after it was implemented via a multiliteracies pedagogy. The analytic process yielded a number of categories which I then narrowed to three over-arching themes of *collaboration*, *agency* and *multimodal design*, based on deductive categories that emerged from the literature review: *social interaction*, *communication*, *peer tutoring* and *multimodal design* (Lee and O'Rourke, 2006; NLG, 2000). I discuss the pupils' perspective

on the nature of their literacy learning (communication, interpretation and representation) and their experiences as a result of my classroom implementation of e-learning in history.

#### **4.5.1 Collaboration**

I coded as ‘collaboration’, the importance pupils consistently attributed to turn-taking and full participation throughout pupil-interviews, based on deductive categories of *social interaction, communication and peer-tutoring* (Lee and O’Rourke, 2006):

“Well we all took it in turns em doing the shots, doing the pieces and making the pieces” (TimB2, 10/4/2013).

The mixed-age and ability nature of the collaborative groups, which was a new way of working, was regarded by pupils as facilitating peer-scaffolding to ensure a full and more inclusive participation as LilyG2 (10/4/2013) stated

“It was kinda easier because there was [sic] people who knew what you were actually supposed to do and then there was people that you could teach. And I like teaching LarryB1 how to do it”.

Emerging from pupil-interview data was a similar collaborative approach to the division of labour in allocating tasks during the animation, with the specific pupil-driven criteria that no-one would be left out and they would all contribute.

LilyG2        “We all made sure there was no one left out and we all made sure that  
10/4/2013    everyone was doing something”.

This approach and criteria necessitated full participation by all team members regardless of age or ability. The following excerpts illustrate the ways pupils did this.

KiaraG3       “Well we just really voted and first of all we asked LarryB1 cos he didn’t do it  
(10/4/2013)    before and whichever one he wanted we could explain that to him”.

JohnB3        “Well we just really ... everyone picked. The first time we all did it...we took  
(10/4/2013)    turns doing each job; whichever job they were good at and liked the best,  
                     they’d keep doing”.

Collaboration facilitated inclusion of all pupils in the literacy process even if they had no story, as was the case with AnnaG2, whose home life was in turmoil at this time. Despite this she could still participate as there was enough information within the group to share.

Collaboration is not a panacea and it was important for me to realise that it was also daunting for pupils new, both to the process of animation and to collaboration, causing some anxiety, as evidenced by JimB1, 7 years (22/4/2013)

“When I was starting I was really nervous because like, I thought I would make a mistake, and I thought that like, everyone would be disappointed in me”.

However he later stated

“Everyone else was here [in the group] and they knew what to do”

indicating a positive response to the collaborative design and peer-scaffolding, as well as the guidance of the teacher “*The teacher was watching out for us as well see*” (JimB1, 22/4/2013).

Designing animations was an authentic, collaborative task where there was a necessity for more than one person in the division of labour, illustrated by SeamusB3 (10/4/2013)

“Moving the parts and dragging the sound effects into iMovie and taking the photos on i-Can-Animate and making parts... like if you weren’t in a group it’d be much harder like, cos you’d be doing everything on your own”.

It needed active learning, not passive, and the multiplicity of age and abilities was powerful in achieving this.

LilyG2 10/4/2013	“Well it was kind of easier because there was [sic] people who knew what you were actually supposed to do and then there was people that you could teach”.
---------------------	--

This powerful combination of collective participation in collaborative pupil-led tasks and e-learning resulted in pupils taking ownership and better engaging in the learning process.



#### ***4.5.2 Agency and shared ownership***

NualaG3            I think it was easier cos sometimes when we ask you, you do have [sic] different things (ideas) and we don't want them and we [peers] kinda argue.

This was NualaG3's response (11/4/2013) to how she felt about working in a mixed-age group making their own decisions. This comment evidences the agentic nature of pupils' ability to rely on their own judgements as a group rather than passively accept mine, and illustrates the ownership of ideas and learning that designing animated films facilitated. It may also indicate that some pupils were less sure about disagreeing with the teacher, hence the arguments. Agency developed over the duration of the animation process. Prior to this action research, pupils did not have an opportunity to make judgements and decisions on their work to the extent that this animation afforded them, as evidenced by CiaránB3 (10/4/2013), "It's [animation] kinda your ideas (the pupils) and normally you [teacher] tell us what to do".

However, peer collaboration facilitated self-direction and trust in their own decisions as AnnaG2 (10/4/2013) indicates:

    "...you're in a group so you can speak out and ask but when you have a problem you can ask the teacher".

JoanG3            "Well we kinda made our own decisions and it was quite fun cos we got to (10/4/2013) think of everything ourselves".

Sharing ownership of the implementation of the design process facilitated these agentic literacy practices.

#### ***4.5.3 Shared control and pupil agency***

By sharing control of the design of the task, the teacher afforded the pupils the opportunity to express their own ideas in every aspect of the design of their animations, from the content to the animating, editing and creating of sound-effects and credits. Pupils collaboratively engaged evaluative and critical thinking to make decisions based on what the group thought

or the potential audience might like, rather than what the teacher expected. This was a significant shift in the power structure in my classroom in terms of shared control. Most pupils embraced this autonomy, as the following extract from one of the youngest members' interview indicates (10/4/2013).

- LarryB1    Because you...if a teacher says if they prefer something you can say no because the audience might not like that.
- Teacher    Ok so you're saying if the teacher says something you can say no? Or are you saying you can't say no?
- LarryB1    I'm saying you can say no to the teacher.

Pupils couldn't simply do what they wanted but the creative design of the task allowed them to autonomously express their own critical decisions within the wider criteria of the group.

#### ***4.5.4 Multimodal design as productive learning***

The nature of pupils' literacy practices became more multimodal as they gained proficiency in the animation process and the use of e-learning practices in our classroom. LarryB1 (10/4/2013) acknowledged this transformation in interview as he wondered "*Will Granddad recognise his story*" when he came into the viewing of the films in the school. In school, all of the activities were productive, in that they were part of a process to generate something novel and relevant to history in the form of animated films. This was a change from pupils' usual out-of-school digital activities, which emerged through analysis of pupil-interviews as predominantly consumer, where 83 percent of pupils interviewed engaged in technology activities such as playing games and downloading/sharing music (Interviews, 10-11/4/2013). However, this consumer, pop culture use complemented their facility for e-learning use in school, where pupils were ready for more productive use and intercontextual use of e-learning occurred. This was exemplified by their knowledge of MP3s and iTunes when creating sound-effects and voice-overs.

While every pupil had access to either on or off-line technology outside of school, levels of access, due to rural geographical location and parental control over access varied, indicating the plurality that exists in the classroom. It emerged from this study that school provided democratic access for all pupils to engage with e-learning.

This study fore-grounded multiple visual, audio, spatial, linguistic and gestural literacy practices (Kress, 2000) through the design of the animation. The increased multimodality in their literacy practices was recognised by pupils as a change from their usual classroom practice in history,

AnnaG1        "We either read it out or we talk about it".  
(Cycle 1)

TimB2        "If there wasn't technology, we'd be doing it all in our copies and stuff".  
(Cycle 2)

This is not to say that digital media had not been part of their classroom but that it was used in a peripheral way rather than centrally such as to type a project, access pictures or teacher-directed lessons on the interactive whiteboard. I changed the classroom approach after Cycle 1, to exclude class-text books. This does not signify that traditional practices were ignored. Animation facilitated the implementation of the broader multimodal ways of learning and without the pre-determined 'script' of a text book, I was freer to engage pupils in generating their own relevant content in history and thus increase their ownership of the learning, acknowledging the plurality of contexts pupils live within.

SeánB3        "Because every family has their own story...cos my grandma and granddad were in  
(11/4/2013) England and my granny and granddad were in Ireland. So they're different.

Pupils trusted their grandparents' stories as valid forms of text and ways of knowing "*they were there so they know*" (AnnaG2, 23/4/2013). JoanG3 (10/4/2013) observed the reflective facility of digital learning practices

"It [animation] was fun and I think I learned more because ....it [animation] kinda shows how you learned".

Moving from print-only practices to multimodal literacy practices increased accessibility by aligning more with the cultural experience of younger pupils in watching cartoons as evidenced in TimB2's (10/4/2013) comment:

"If you did it in a book the younger ones [pupils] probably wouldn't be able to read it. But in an animation they would understand it".

#### ***4.5.5 Multimodal design and transformed practice***

The nature of pupils' literacy practices enabled them to engage in transformed practice. I found pupils to be highly motivated not only while designing animations but in aspiring to repeat the experience and to use the new digital practices beyond school. Productive engagement was also bolstered by the aspirations of five different pupils during interview (LarryB1, WayneB3, SeánB3, KiaraG3 and SeamusB3, 10 & 11/4/2013) to translate and use the new skills learned through animation-photography and digital story-telling into their out-of-school use of technology

SeánB3      "Miss I have an iPod at home so when SéamusB3 comes up [to visit] we can make an animation....we'd probably use Moviemaker."  
and to improve life chances

KiaraG3      "My Daddy was saying to me this morning that it'd be good if you [KiaraG]went to college and got a good computer job."

In this sense the situatedness of the animation activity was relevant to pupils in their aspiration to continue the experience out of school and by one parent's recognition of the possibilities of technologies in influencing life-chances beyond the classroom.

#### 4.6 Summary

My findings help me answer my research questions by suggesting that e-learning was effectively implemented through the components of a multiliteracies pedagogy, with the components of *overt instruction*, *critical framing* and *transformed practice* most evident in the animation design process. *Situated practice* effectively harnessed pupils' out-of-school technology and life experience through their competence with technology and the historical information garnered from their grandparents' stories. Through engaging in e-learning practices, where pupils worked collaboratively to produce a short animation, my findings suggest the literacy practices of pupils were highly collaborative in moving from traditional forms of reading and writing to multimodal digital practices and agentive speaking and listening in their interactions and in multimodal design. Data uncovered pupil collaboration, peer scaffolding, new multimodal literacy practices, and broader access to the curriculum for reluctant readers and acknowledgement of pupil identity as technology users. Data also evidences these pupils' literacy practices suggest e-learning, in the form of animated film-making, generates multimodal design and generative thinking processes and pupil engagement therein enables development of deep understandings of history.

Through engaging in e-learning practices, where pupils collaborated to produce a short animation, my findings evidence the four elements of the multiliteracies pedagogy fostered features of teacher creativity, in terms of *shared control*, *standing back*, *improvisation*, *making connections/relevance*, *originality/innovation* and *open-ended challenge*, with these features being inter-linked. My findings indicate that the teacher's creativity was positively

fostered as a result of engaging in e-learning practices enacted through the multiliteracies pedagogy.

## Chapter 5 Findings from the pupils' work

### 5. Introduction

In this chapter I present the findings that emerged from the animated films and the pupil researchers' data sets to highlight their voice and their contribution to this study and to help answer my second research question, what is the nature of pupils' literacy practices when the teacher implements e-learning in history? I outline how I taught and supported the pupils as researchers. I primarily based my analysis of the five animations on the deductive category *Multimodal design* (Kress and Van Leeuwen, 2010; NLG, 2000). Pupil researchers, with teacher guidance at each step (Appendix 1), gathered and analysed data from photographs throughout the animation process, peer-interviews and field notes. I analysed their questions and responses based on my deductive and inductive categories that arose from the literature review in terms of *multimodal design* (NLG, 2000), *collaboration* and *agency* (Lee and O'Rourke, 2006).

### 5.1 Findings from the animations

I found ample evidence of the multimodal literacy practices I had introduced to pupils through overt instruction, moving from the replication of pre-determined outcomes in pre-study practice to the generation of their own pupil-designed learning-outcomes. The use of visual, spatial and auditory modes, as elements in the design process represent character traits and historical artefacts, in establishing location and evoking emotional responses, evidenced pupils' proficiency in using multiple modes to communicate to the audience. All pupils, including reluctant readers, were able to participate and represent their learning in a valid and relevant way, evidenced in the finished animations, bridging the integration of their out-of-school and in-school digital literacy practices, as well as their acquisition of traditional literacy skills, still needed for academic success. Pupils, through their multimodal design, experienced opportunities to explore new, innovative e-learning practices to represent what

they learned. Pupils were also enabled to act as historians in using evidence from their Grandparents' stories, to analyse, investigate and communicate change and continuity and develop empathy in terms of life in their Grandparents time. Their learning was transformed from the collected stories to the multimodal re-representation of the animated films.

### 5.1.1 Multimodal design

The following description is a synopsis I authored of Group one's finished animation. The selected inductive categories I used for analysis *visio-spatial*, *auditory*, *spatial-gestural* and *visio-linguistic* elements are based on categories from the literature (Kress and Van Leeuwen, 2010; NLG, 2000) and were evidenced in all five finished animations.



This animation depicts life "In our Grandparents' Time, as represented by Group1. Rather than a continuous story from start to finish, each scene represents an aspect of life in the past that pupils discovered as they made the animation.

The animation opens with a title "*Farming in Ireland*" The first scene depicts two farmers in a field gathering hay by hand, which one of them feeds to a cow positioned outside a shed. The second scene is titled "*Hire a TV for a special day*". It opens with a building with the letters 'TV' painted on it. Two people walk up to the shop and disappear in the door. The next frame takes place inside the shop, with the shopkeeper seated at a counter while the two customers request a TV. Speech is indicated by speech bubbles. This frame is followed by the two customers walking down a pathway, presumably home. The third scene shows three



children entering “*Duffs shop*”. This is followed by the interior of the shop, where they buy sweets and leave. The next scene is entitled “*This story is from America*” In this scene a boy picks fruit from an orange tree and brings them into the house to place them in a bowl. The final scene is entitled “*Hurricane Debby in Ireland*”. The scene depicts a stormy sky, complete with lightning and the roof blowing off a shed, with two people entering a thatched cottage, to safety. The animation is completed with credits for animation, voice-overs, sound-effects, stories, drawings and story-boards. It ends with © 2013.

**Visio-spatial:** I introduced this category to describe the combination of the visual and spatial modes present in pupils’ animations. On analysis of each animation, it emerged that the modes were never independent of each other, being connected through size, appearance and placement of icons on screen (Kress, 2000). Pupils used the visio-spatial mode strongly throughout the animation to establish character traits and personalities and to establish locations, both geographical, such as Ireland and America and in terms of historical settings, the old lay-out of shops. They created and placed characters and items with defining features, speech-bubbles, cows, houses and shops proportionately relative to each other to fit on the screen. Pupils could better visually and spatially represent their understanding of this time in history instead of relying singularly on the linguistic mode to author a narrative about the past. At their age (7-9 years) they do not possess the vocabulary or literacy proficiency to author such a narrative in the linguistic mode. They chose bright, vibrant colours to depict the weather in America and contrasting gloomy colours to depict rainy Irish weather. This is evidence of the pupils drawing on a complex semiotic sign-system (Kress and Van Leeuwen, 2010) using visual and spatial modes to represent information.

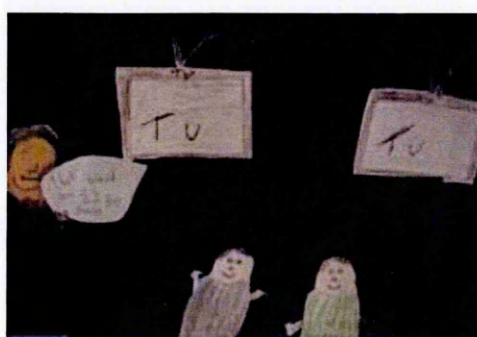


*Figure 6(a) Weather in America*



*Figure 6(b) Weather in Ireland*

In Scene 2 pupils convey the rental of a TV for a special occasion, where the characters struggle to carry the huge TV, communicating through the visio-spatial mode their socio-economic understanding of that time and the enormity of the occasion, as there weren't TVs in many houses.



*Figure 6(c) Rent a TV*

These pupils used real hay to represent thatch on the roofs in each scene, to make their animation as convincing of the historical setting as possible while developing their own unique style. They chose a parchment-style backdrop for the titles (*Figure 7*), drawing on the visio-spatial mode to reflect the historical setting of the animation in the past.



*Figure 7 Parchment title*

Engaging the same mode, pupils created storm clouds and moving lightning flashes to visually depict a storm coupled with black skies to depict actual historical events (Hurricane Debbie, 1961). Using the visio-spatial mode helped pupils to convey emotion such as smiling faces of people renting the TV and buying sweets contrasted with worried faces during the storm.

***Auditory elements:*** *Music* Traditional Irish music was selected to play throughout the animation, to evoke emotion and indicate that the setting was Ireland and that traditional music represented ‘old people’ i.e. grandparents (JimB1, 24/3/2013). Designing with the auditory mode allowed pupils to go beyond reading and writing-only texts to develop deeper understanding of history. Group 1 cleverly changed the music to American country at the start of the scene depicting America, engaging the auditory mode to signal a change of mood and location. Group 5 used their prior knowledge of music from music class to select Vivaldi’s Theme from ‘spring’ to represent Easter at the start of their film.

*Sound-effects* selected from the ‘iMovie’ editing programme were effectively used for thunder and wind to authentically add to the final hurricane scene. Sound-effects varied over the five animations, from using the effects library in ‘iMovie’ to creating their own, as Group3 did when they could not find suitable duck and pig sounds for their farm scene (19/3/2013).

*Voice-over:* This group minimally used voice-over, bar to announce the scene representing farming in America, which was voiced by LilyG2. Other groups used voice-over to voice the characters in their animations and thus tell their stories.

*Visio-Linguistic:* I developed this category of analysis to represent how the pupils visually manipulated the traditional printed written words at the start of each scene, deliberately selecting an ‘old’ font to represent times past. They drew speech bubbles with words handwritten in them to represent speech and did not use voice-over. In the shop scene, they used the £ sign in the speech bubble depicting the shop-keeper telling the price, engaging a visio-linguistic mode to represent their learning and understanding of history at this time, that the currency in Ireland was £ and not € at that time. In Scene one a speech bubble ‘moo’ indicated the cow was hungry. No sound effect was used for this. A farm scene was common in all but one animation, signifying the rural locational context of the pupils.

Pupils also typed and scrolled the credits at the end of the animation to represent the real fast-moving scrolling credits used in cartoons, replicating their out-of-school experience of animated cartoons through the visio-linguistic mode. This mode strongly evidenced the connection between their traditional and digital print systems to represent their story

*Spatial-gestural:* This element is central to kineikonic texts (Mills, 2011b), texts that use moving images such as stop-motion animation, the technique that pupils engaged in to make the characters move, giving the animation life. The complexity of this technique is well evidenced in the scene where the pupils used spatial and gestural modes to create the impression that the 2-d characters were walking through the shop door. The technique used was slitting the door and then taking two shots of each movement as the characters gradually disappeared through the door. They used this technique four times throughout the 1 min 15 seconds of animation. *Figure 8* indicates the pupils’ initial difficulty with the spatial-gestural

mode, where they tried to depict the characters walk down a path, a difficult technique. Instead the characters appear to ascend into the sky.



Figure 8 Difficulty with walking-technique

This was corrected in the next scene where the children are depicted leaving the shop, by moving the icons sideways left to right, rather than bottom to top, indicating reflective progress as the animation developed.

The multimodality of the project realised many pertinent aspects of both the 1<sup>st</sup>/2<sup>nd</sup> and 3<sup>rd</sup> class History curriculum, in exploring ‘*Life in the past*’, ‘*Change and Continuity over time* and *Story*’ (DES History Curriculum, 1999, pp. 26-31, 34-47). This is evidenced in **Figure 9**, screenshot of rural farming, where Group 2 clearly transform their story about rural farming in the past to a visual representation of this and **Figure 9b** for LilyG2’s representation of her grandfather’s farm in the US, something she could not have done in writing.

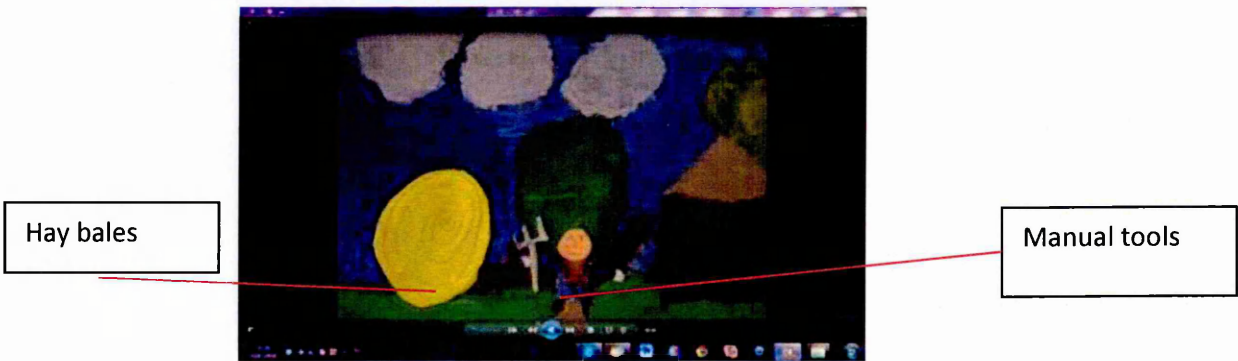
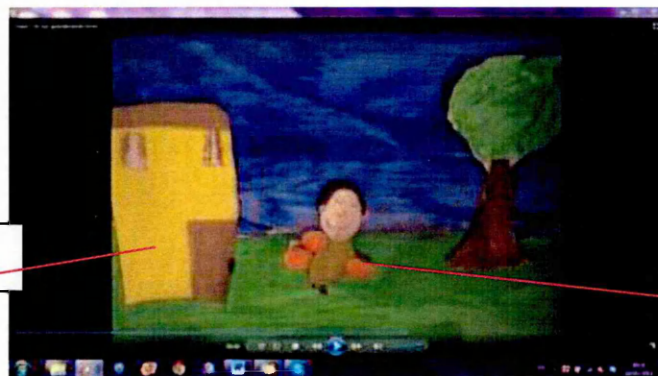


Figure 9 Rural farming



igger, brighter coloured house



Orange picking

Figure 9(b) Oranges in the US

### 5.1.2 Multimodal design and higher-order thinking skills

Multimodal analysis of the animated films uncovered the deeper, social observations and learning evident in all of the animations, as pupils developed empathy as well as criticality, and conveyed in multiple modes the socio-economic differences they perceived in their grandparents lives. *"They were poor"; "Rich people had feather mattresses"; "dark colours cos they were poor"; "they had to rent TV for special occasions"; "they had no machinery";* (Group interview transcripts 23/4/2013). *"They got slapped if they were poor"; "they had no shoes"; "they got slapped"* (Cycle 1, 20/2/2012). Through multimodal analysis of the animated films I could perceive that pupils synthesised, explained, hypothesised, analysed and evaluated the nuances of a genuine, lived experience compared to the generic representations of a class-text book, through *visio-spatial*, *auditory*, *spatial-gestural* and *visio-linguistic* modes of design. Their engagement in multimodal design extended beyond reading and writing print-only texts and enabled pupils to develop deep understandings about history at that time.

## 5.2 Findings from the pupil research: Multimodal design

In this section I include the charts compiled by the pupil researchers to report their findings.

Pupil researchers identified designing animations as positively changing their ability to learn in history, represented in the following charts which pupil researchers compiled alongside the teacher to represent the responses to their peer-interviews. My interaction with the pupil researchers mirrored my pedagogical interactions throughout the design process of animation. I engaged a combination of providing explicit information (mini-lessons on each step of the research process), open-ended questions as they worked to analyse the data and guidance in terms of presentation. After the initial lessons at each stage (data collection, analysis, presentation), I stepped back to give each pupil research team space to collaboratively work. However, as I did during the animation design process, I spontaneously and responsively interjected to support and guide the process.

I found that pupils' literacy practices became more multimodal as they engaged in the design process of animation, moving from writing to design. In their findings, pupil research Team2 clearly reported a shift in literacy practices from writing to engaging in multimodal design as they participated in making animation, both in the composition and responses to their research question such as *"You're drawing and filming"*; *"You use technology"* and *"We*

don't use a book" (Table 9).

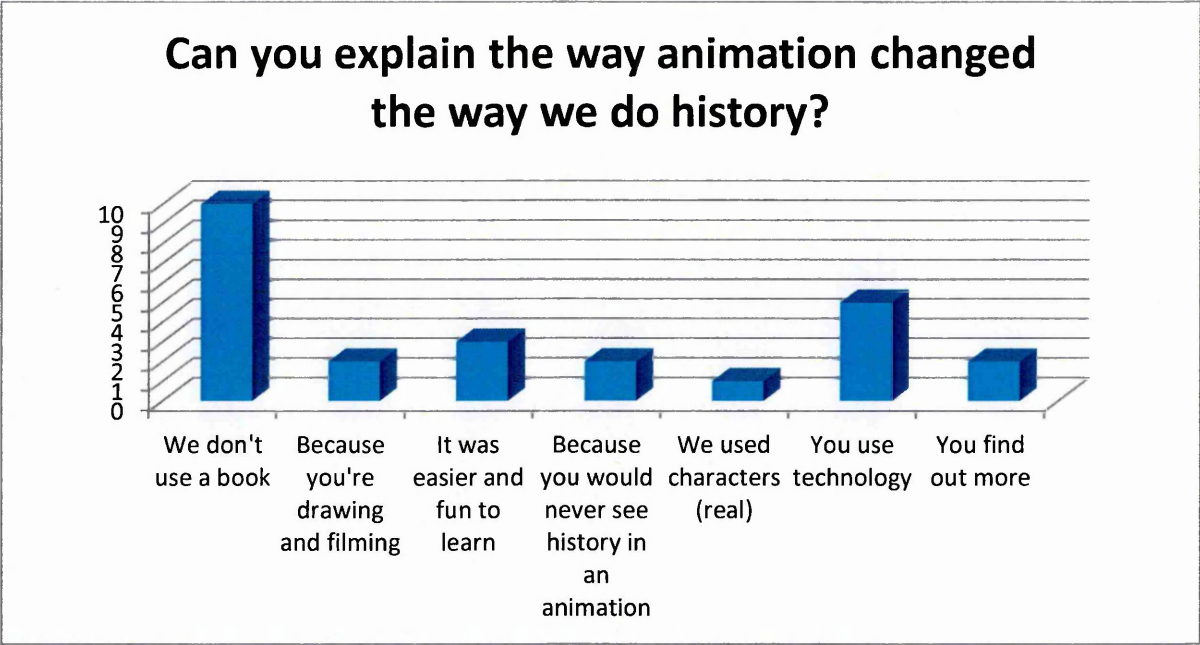


Table 9 Pupil research findings

The numbers in the chart, compiled by the pupil researchers, indicate the number of responses out of a class of 25, rather than percentages, because at their young age (9 years), they have not encountered the concept of percentages.

Peers interviewed by the pupil researchers reported the parts they “*liked best*” from their involvement in the entire animation process were: *making parts* (pupils drew, painted and cut out all of the characters and components of the animations) (7 pupils), *drawing* (4 pupils), *painting* (1 pupil) (visual mode), *animation* (3 pupils), *moving parts* (8 pupils), *taking pictures* (capturing shots) (2 pupils) (spatial and gestural modes), *music* (1 pupil), *sound effects* (1 pupil) (auditory mode) outlined in **Table 10** below, the latter five being new e-learning practices, confirming that situating their history learning within animated film-making was more relevant to them than singular print-based activities of reading and writing.



# What part did you like best?

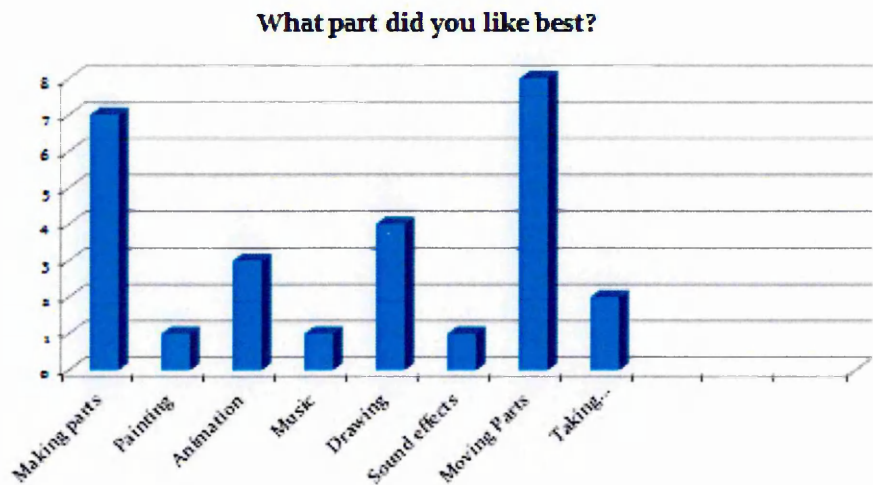
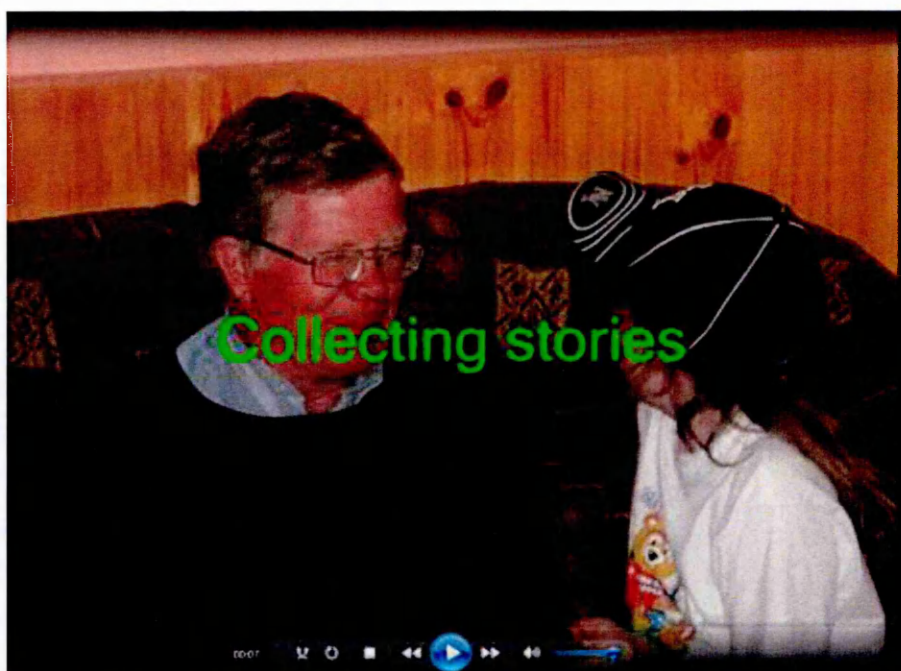


Table 10 Pupil research multimodal aspects

\*Some pupils reported liking more than one part.

Team 1 chose to multimodally report their findings as a photostory and a voice-over commentary (**Figure 10**) “*The Journey from a story to a blog*” which outlined the design process of producing an animation through the multimodal stages of *collecting stories, story-boarding, making the parts, animating, sound-effects, editing and credits* (Transcripts, Appendix 19). They chose this method of reporting because “*pictures gave the most information*” (Pupil-research notes, 14/5/2013). They reported collaboration and peer-scaffolding while engaging multimodally in the design and production of animations: “There was lots of debating and voting going on”. “1<sup>st</sup> class...asked other people in the group and they showed them how” (Slides 12 and 13, Appendix 16 b).



*Figure 10 Photo Story extract*

As they engaged in data collection, analysis and presentation of their findings, guided and supported by the teacher, the pupil researchers used more sophisticated learning practices. They capably used software such as Microsoft Excel, Photo Story and PowerPoint in order to interpret, represent and report what they learned from their research. I taught the five pupils in Team 2 pupils how to use Excel (4/2013) to compile simple tables. They then completed the charts by transferring data from Excel to Word and finally a PowerPoint for presentation. I had taught all pupils how to use PowerPoint and Photo Story earlier in the school year (2012-13) to present other curriculum projects. Their literacy practices when engaged in research evidenced them as capable multimodal designers.

Did you enjoy using animation ?

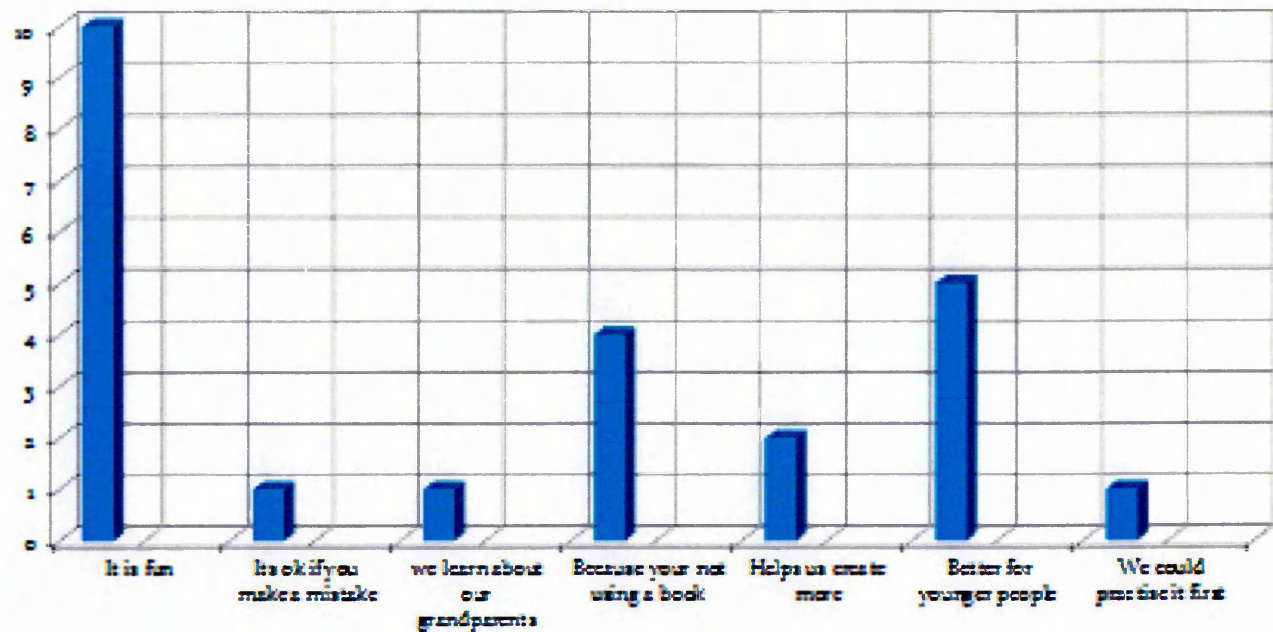


Table 11 Pupil research animation

Being fun featured in all aspects of pupils’ responses in relation to engaging in designing and producing animations, unsurprising given the association between animation and cartoons.

Drawing on data from peer-interviews, pupils analysed their peers’ responses and concluded that animation was “better for young people”, further evidence the relevance of the task to the young pupils, as a contextually ‘real world’ activity and as a meeting point between home and school experiences. Pupil researchers concluded that animation was enjoyable because pupils were “not using a book” and “it helps us create more”. They concluded that “We learn about our grandparents”, indicating the relevance of the learning to pupils’ lives.

Pupils also reported that animation was enjoyable because “we could practice it first” and “it’s ok if you make a mistake”, evidence of the confidence and resilience developed through the animation process for these multi-age and ability pupils. These responses indicate the

reflective thinking of pupils in identifying the powerful learning opportunities through animation they identified beyond ‘fun’.

5.2.1 Collaboration

In the following tables, produced by the pupil researchers, they reported that the collaboration they engaged in while making animations was better than working alone. In response to the interview question “*was working in a group better or worse than working on your own?*”, the 25 pupils responded by saying:

- You get it done quicker (9 pupils)
- Everyone can help everyone (5 pupils)
- It was more fun (6 pupils) and
- More stories (5 pupils)

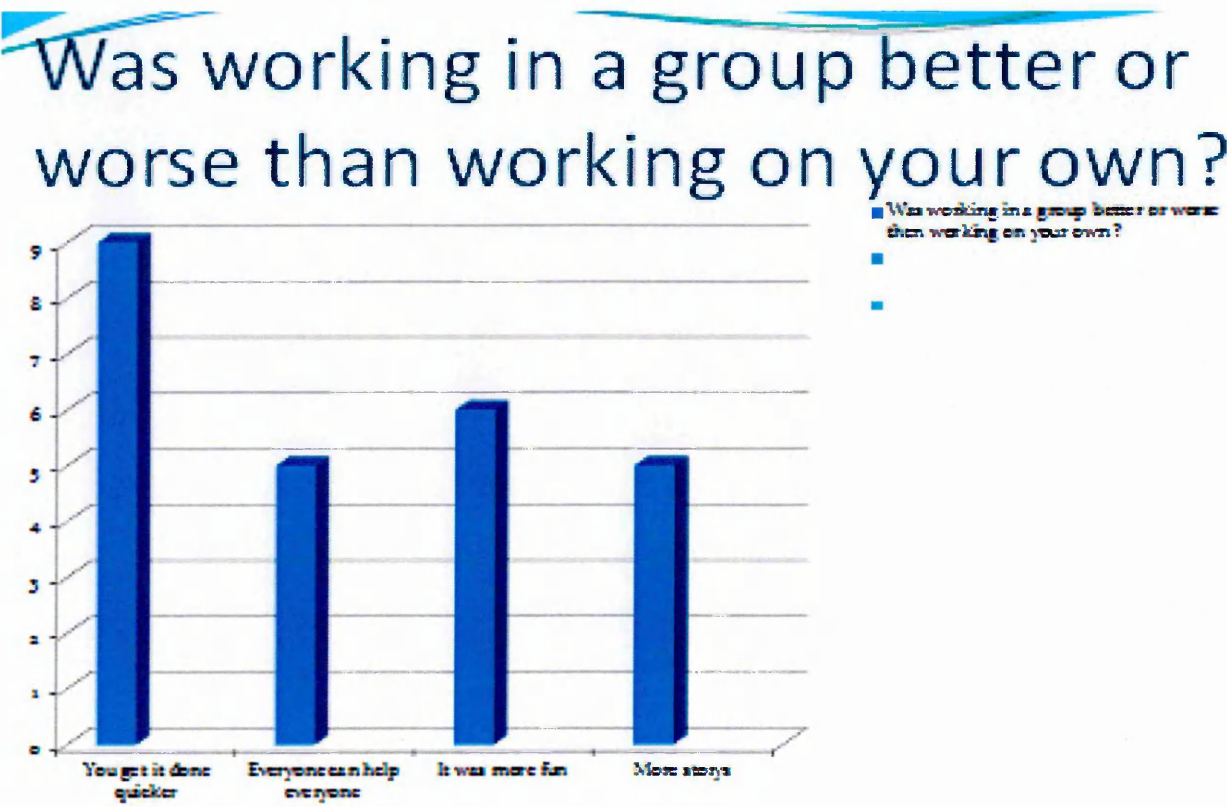


Table 12 Working in a group



They also strongly evidenced the reasons for this by asking the question “‘how’ do we learn from working in a group?” (Table 13) where peers answered:

- More information from more people (11 pupils)
- More help in a group (4 pupils)
- Older pupils help younger pupils (4 pupils)
- More work to do (1 pupil)
- Didn’t take as long (1 pupil)
- Not reading out of a book (3 pupils)
- Helps learn in a different way (1 pupil)

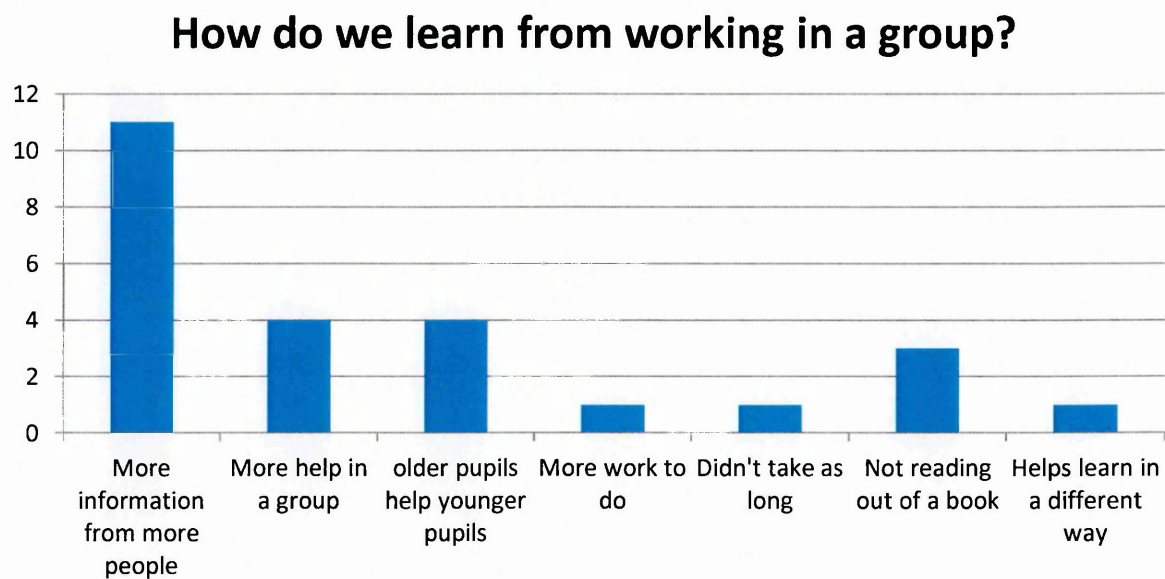


Table 13 Pupil research on collaborative animation work

The compositions of their questions indicate the pupils were highly reflective in their thinking about learning when they worked as researchers. They critically analysed the information from their peer-interviews to present them as findings in their research. I closely monitored and guided the operational and organisational aspects but did not interfere with the content of their research questions or findings. Pupil responses helped me answer my second research question in relation to pupils’ literacy practices by evidencing multimodal design,

collaboration, peer-scaffolding and opportunities for self-direction as features of pupils' literacy practices as they collaboratively engaged in animation, while also highlighting the peer-scaffolding opportunities in mixed-age and ability groupings.

Pupils' strong ownership of the learning involved, and their self-direction was particularly evident where, out of 27 selected photographs to illuminate the animation process, I, as teacher, featured in just one. This is one indicator that pupils felt ownership and autonomy throughout the design process and that researchers were capable of self-directing their own research in presenting it so. Their reporting in the photostory (Appendix 21) further indicates their ownership "*It was our [pupils] idea to set up the blog*".

### 5.3 Summary

The findings in this chapter helped me to answer my second research question regarding the nature of pupils literacy practices while e-learning is implemented. Their animations highlight the multimodal elements they engaged in while designing animations. I also indicate the level of teacher support and guidance the pupils needed to work as researchers. Pupil researchers were more agentic and became more reflective and analytical as they engaged in data collection and analysis because they knew they needed evidence to back up their claims. They engaged the features of a multiliteracies pedagogy, emulating the teacher behaviours, such as critically framing their questions and reflectively analysing responses to evidence their findings in order to plausibly present these to an audience of their peers, teachers and subsequently a national website. Meta-cognition (Bruner, 1999) as a higher-order thinking skill, where pupils are, in effect, thinking about thinking, was evident in pupil-researcher composition of their questions where they explored how pupils learn both in a group and through animation "*How do we learn from working in a group?*" and "*Explain how animation changed the way we learn from history*". The peer responses evidence that pupils reflectively and critically engaged with how their learning came about (Tables 12 and 13).

Pupil research findings resonate with my findings on the nature of pupils' literacy practices when e-learning was implemented in history. Pupils were highly collaborative and agentive in moving from traditional forms of reading and writing to multimodal digital practices. The researchers evidenced self-direction and reflexivity in their data collection and analysis and in the multimodal design of the presentation of their findings. Their research valuably contributed to answering my research questions by reporting pupils' evaluation of the impact of my actions in enacting e-learning in history on their literacy practices. It uniquely allowed pupils to voice the views of all pupils rather than their own opinion (Thomson, 2008).

## Chapter 6 Discussion

### 6.1 Introduction

The aim of this study was to introduce e-learning more centrally in my history classroom in an interesting and engaging way, through the four components of a multiliteracies pedagogy and to make pupils' literacy practices more relevant to their lifeworlds. This exploration was led by three research questions:

1. *What happens when a teacher uses the four components of a multiliteracies pedagogy to implement e-learning in a rural, multi-age classroom in Ireland?*
2. *What is the nature of pupils' literacy practices when the teacher implements e-learning in history? and*
3. *Does using a multiliteracies pedagogy foster the teacher's creativity (as a pedagogue)? If so in what ways?*

This discussion considers answers to these questions, drawing on the findings of the study and positioned in the context of debates explored in the literature review, multiliteracies pedagogy and multimodal design (NLG, 2000), the interrelatedness of the findings in regard to the nature of pupils' literacy practices (Kress and Van Leeuwen, 2010; Lee and O'Rourke, 2006). The discussion also considers the extent to which using the components of a multiliteracies pedagogy fostered the teacher's creativity (Cremin, 2009; Sugrue, 2006a; Jeffrey and Craft, 2004; Sawyer, 2004) over the two cycles of my action research.. I comprehensively account for the impact on pupils' literacy practices and teacher's creative teaching that occurred as a result of this. e-Learning was used as a learning tool (Twining, 2008) to support and extend aspects of history curriculum learning rather than about ICT itself, in accordance with the requirements of the Revised Irish Curriculum (DES,1999).

### 6.2 What happens when a teacher uses the four components of a multiliteracies pedagogy to implement e-learning in a rural, multi-age classroom in Ireland?

The primary components of a multiliteracies pedagogy I engaged in to implement e-learning were *overt teacher instruction* and *situated practice*. These components were characterised



by the social participation, enlightened spontaneity and multimodality engaged in throughout the design process of producing animated films. *Critical framing* was evident in the nature of pupils’ critical negotiations and agency in their collaborative groups, which resulted in *transformed practice*. Table 14 illustrates the interrelatedness of my study’s findings and the components of multiliteracies pedagogy in implementing e-learning.

Multiliteracies	e-Learning
Overt instruction	Design process Multimodal practices
Situated learning	Out-of-school experience
Critical framing	Design process Multimodal practices
Transformed practice	Multimodal practices

Table 14 Connecting multiliteracies and e-learning

There are interconnections between each of the multiliteracies components aforementioned. However, not to oversimplify this complexity, I will discuss each component separately in relation to my first research question.

6.2.1 *Overt instruction enabling the design process*

The overt instruction component of a multiliteracies pedagogy was essential to introduce pupils to the metalanguage of animation and the new digital practices necessary to complete the design process therein, which the NLG (2000) argue is the ‘how’ of the multiliteracies pedagogy. Despite pupils’ familiarity with multimodality, they needed explicit introduction to the new practices of animated film-making. This indicates the need for pedagogy to incorporate this, unlike Huijser (2006), who questions whether multimodal ability needs to be taught. Therefore, while pupils were facile in their ability to engage with multiple modes of visual and auditory communication, they needed explicit instruction in how to harness this in terms of creating animations. Overt instruction enabled this multimodal design process. It enabled me to introduce two new multimodal literacy practices in my classroom necessary

for animation, *transmediation* (Mills, 2011a) and *intermodality*. Both were e-learning practices that initially required explicit explanation, which pupils then appropriated and engaged in collaboratively to design their own individually styled animations. Table 15 illustrates the interrelatedness of these e-learning and multimodal practices.

e-learning practice	Design process		Multimodal design
Intermodality	Capturing		Visio-spatial/gestural
	Deleting frames		Visio-spatial
	Duplicating action		Visio-spatial
	Speeding it up		Visio-spatial
Transmediation	Sound effects	creating	Auditory
		recording	
		Selecting (from pre-recorded)	
	Music		Auditory

Table 15 Interrelatedness of e-learning, multimodality & design

Engaging in overt instruction, whether as formal teacher-led or informal spontaneous interventions, enabled me to introduce the metalanguage and the named concepts the pupils needed to design animations (Mills, 2011a) such as ‘characters’ ‘scene’ ‘shot’, ‘sound-effects’, ‘voice-over’ and ‘edit’. The process required pupils to engage in design through the multimodality afforded by e-learning in the form of *visual, auditory, spatial, gesture and linguistic* design modes and the complex *multimodal patterns* that relate them to each other (Kress and Van Leeuwen, 2010; NLG, 2000) in order to communicate and make meaning.

An aim of the study was for pupils to actively engage with rather than passively receive curriculum knowledge in history through e-learning in the form of animated film-making.

This multimodal design process encouraged decision-making, problem-solving, critical and higher-order thinking. A less formal overt instruction, which I called enlightened spontaneity, was evident in the form of improvised teacher interventions throughout the collaborative animation process, giving pupils the time and space to find, manage, evaluate and use information from their stories to inform and transform their learning. These skills are necessary to be ‘digitally literate’ (Probert, 2009). Designing animations enabled a trial and error approach (Buckingham, 2013), where pupils used multimodal design and new digital literacy practices to view how and why their ideas had changed, encouraging reflection and critical framing. Pupils began to develop the real skills of working as an historian, gathering and using evidence or primary resources (DES, 1999). This is apparent throughout the design process, where they gathered stories and used these to connect the icons/characters they designed to represent their knowledge. Implementing the pedagogical component of overt instruction both formally and informally allowed me, as teacher, to enable the necessary classroom environment for pupils to engage in the multimodal design process of animation by equipping them with the metalanguage, skills and support they needed (NLG, 2000).

### ***6.2.2 Situated practice enabling shared ownership***

Situating practice in the multimodal design of the animations allowed pupils to build on their out-of-school literacy practices that emerge from their experience of using digital technologies. The design process of animation brought these literacy practices into the classroom to engage them in deep learning and motivate fuller participation in history activities directly relevant to their lifeworlds. Pupils were already familiar with the technical landscape of animation from their out-of-school culture of viewing cartoons and animated films (Marsh, 2005). The design process of animation in school incorporated this real-life experience, situating ‘the known’ and using this to make links to the new, in designing and producing their own films (Kalantzis and Cope, 2000). Pupils also drew on the specific

cultural contexts of their grandparents' stories and therein information relevant to their own lives, through the inclusion of their grandparents' lived experiences in rural Ireland, America and Wales, in designing animations in history. This allowed a meeting point between home and school worlds (Pahl and Rowsell, 2005), enabling shared ownership through setting their own goals for content and appearance.

Multiliteracies is not about prioritising one form of communication over another, but including other means of expression beyond the linguistic mode, or singular printed text (NLG, 2000). Each of the pupils in this study favoured multimodal communication such as auditory (recording and creating sound-effects and voice-overs), visual (drawing, cutting, painting parts) and design practices (capturing shots and editing) (Appendix 16, Pupil Research Team 2, Slide 9). Situating history learning in designing animations facilitated the implementation of these broader ways of learning (Twining, 2004) thus making learning and participation more relevant to pupils by using family stories and new technology practices. Traditional forms of writing and reading, while important, were minimal activities for pupils of all abilities. The study included traditional pencil and paper activity in the form of pupils sharing stories and authoring story boards, which pupils used to structure ideas for the film (Appendix 17). It was at this point that the inaccessibility of singular traditional literacy practices of reading and writing to interpret or to communicate and express any curriculum learning in our classroom was starkly evidenced for some pupils with literacy difficulties. The situatedness of e-learning in the multimodal design of the animation process enabled greater opportunities for accessibility (Comber and Kamler, 2005) and resultantly, fuller pupil participation and ownership.

### ***6.2.3 Critical framing enabling the design environment***

Critical framing requires pupils to make connections between the content of the texts they consume (grandparents' stories and finished animations) and the social context and purposes of those texts (audience) (NLG, 2000). The design process of animation required pupils to develop the capacity to critically frame their animations in terms of their targeted audience, in this case their peers. To do this, the classroom environment required the pupils to build up their capacity to 'speak-up' and also the teacher to enable this and not to be threatened by this agency, which I found challenging at times. This agency needed to be balanced with structure and the critical framing component of the multiliteracies enabled the pupils to critically frame their animation design by analysing and negotiating the content, what colours, images and sounds they deliberately used, to reach their intended audience. Pupils analysed the structure and the functions of the represented meanings in the animations (Mills, 2011a; NLG, 2000). They had to reason, reflect, determine and defend contributions, rather than simply challenging ideas. Equally they had to develop confidence and resilience if, after peer-analysis, their ideas were rejected, as they sometimes were, the essence of critical framing (O'Rourke, 2005; NLG, 2000). These are life relevant skills and dispositions that pupils need for future success, both in and out of school in an ever-changing world (Spendlove and Wyse, 2008). Younger pupils found this criticality difficult at the start while more experienced pupils saw it as essential to the success of the task. However, as the task progressed, these younger pupils, scaffolded by the teacher, through spontaneous interventions, and by their peers, through collaboration, became more agentic. My context of a multi-age and ability classroom with the critical framing component of multiliteracies pedagogy effectively facilitated pupils' repeated engagement in negotiating, reasoning, analysing and evaluating skills over time. As pupils remain in the same classroom for three years, there is potential opportunity for this repeated engagement to develop into expertise.

6.2.4 Transformed practice and out of school worlds

The design of the animations embodied transformed practice, where pupils redesigned meanings from their grandparents’ stories and successfully transferred these ideas from one cultural context (lifeworlds) to their own social purpose and context as animations (Mills, 2011a; NLG, 2000). Through animations, pupils used their new digital practices coupled with prior experience of technologies out of school through social media, to create a platform for their history learning, thus transforming their practice. The NLG (2000) assert that practice is transformed when pupils’ learning is used in new ways, for a new audience. Although the animations were the climax of the multiliteracies pedagogy, transformed practice was further evident where pupils’ demonstrated the successful transfer of their animations into the new social context of the blog ‘*schoolcartoonz*’ (Kalantzis and Cope, 2000) to reach an audience beyond the classroom.



Figure 11 Blog interface

The pupil-chosen blog name, ‘*schoolcartoonz*’, embodies the bi-directional influence of multimodal practices between home and school that emerged from their participation, ‘school’ being the curriculum and pedagogical aspects and ‘cartoonz’, the pop cultural situatedness of animation and the insertion of ‘z’ instead of ‘s’ to subtly signify the peer rather than school relationship. Their audience, initially aimed at their peers for the cultural significance of cartoons, widened to include teachers, parents, relatives and members of the

public. For many children, media texts such as cartoons and animated films are the dominant text they encounter before school (Watts, 2007). The multimodal design of animation built on this familiarity to transform history learning in the classroom.

#### **6.2.5. Summary**

This action research found that the four components of a multiliteracies pedagogy, *overt instruction, situated practice, critical framing* and *transformed practice*, are useful for implementing e-learning through animated film-making. Multiliteracies pedagogy enabled the classroom environment (Jewitt, 2008) and subsequently more fully engaged and accessible participation from pupils. A multiliteracies pedagogy successfully allowed my pupils, traditionally excluded from multimodal design by mono-modal literacy methods, to better represent their learning than singular traditional methods of reading, writing and verbal methods generally engaged in during class work. Multiliteracies pedagogy also facilitated the challenge of capable pupils to strengthen their own knowledge by showing others 'how-to' (discussed in more detail in the next section), as well as criticality in interpreting and selecting appropriate content. It strongly positions animated film-making as a valid form of literacy, and therein the multiliteracies pedagogy as an appropriate way to implement it.

### **6.3 What is the nature of pupils' literacy practices when the teacher implements e-learning in history?**

In this study, the concept of a literacy practice is situated within a landscape of social interaction, as well as within multimodal communication including image, sound and movement (Pahl, 2007). My findings evidence pupils' literacy practices, to be collaborative where peer-scaffolding and increased social participation were enabled through the multi-age and ability collaborative composition of the groups. The following discussion is formed around the themes of *collaboration, agency* and *multimodal literacy practices*. It outlines

how e-learning supported social interactions for learning (Rossiter, 2002) while engaging and motivating pupils.

### ***6.3.1 Collaboration and peer-scaffolding***

The social nature of collaboration enabled peer-scaffolding where the more experienced pupils scaffolded newcomers and pupils with diversity of ability in linguistic practises such as reading and writing to fuller participation. While it may not be expected that pupils will collaborate when engaging in technology use (Lee and O'Rourke, 2006), the design process of animation was a powerful stimulus for social interaction where each step of the animation process, from story selection to editing, necessitated collaborative input from all participants. These e-learning practices changed not only the nature of their literacy practices but also provided opportunities for successful collaboration that I had not previously seen with pupils in my multi-age classroom.

Access to curriculum learning was increased by the democratic participation of pupils, regardless of pupils' out-of-school access to technology, perceived learning ability or age, illustrated by their turn-taking and voting on ideas. The availability of technology was limited (one MacBook, one camera and one software programme), but this partially determined the necessary collaboration which then enhanced the learning task, reflecting Buckingham's (2013) argument that e-learning alone cannot transform practice in schools. This is bolstered by Diamond and Irwin's (2013) assertion that it is not what technology is used, but its use to encourage social participation that affirms learning.

Collaboration strongly emerged as a powerful motivator to participate and for peer-inclusion, as pupils worked in small mixed age and ability groups to create animated films. The plurality within the groups was a shift from the standard practice in my classroom where prior to this study, each class level worked separately on curriculum work. This diversity of age supported the productivity of the groups, where, through peer-scaffolding, pupils



exploited diversity of age, experience and ability to ensure the active participation of all pupils in designing animated films. There was a tendency for older pupils to organise the groups, but their goal was inclusive participation, which needed teacher guidance alongside peer-scaffolding to achieve. Initially their criterion was turn-taking; being fair rather than being expert. However, as the process developed, more nuanced criteria emerged as expertise and experience in order to complete the animations successfully. Diversity in my context also included those who had less engagement with technologies out of school and therefore regardless of age, had less experience with digital technologies and needed scaffolded engagement to become secure and proficient.

Engaging in animated film-making encouraged social participation and it transformed pupils' curriculum learning in history. In my DEIS classroom, some pupils performed in the low-average range of word reading and spelling, finding it difficult to put words on paper, all of which are traditional linguistic measures. This was evidenced clearly in the early stages of the film-making process, most notably during story-boarding and selecting the story where the literacy practices were predominantly traditional reading and writing (p.103). The collaboration of the multi-age and ability group scaffolded their learning. A combination of peer-scaffolding and the teacher's enlightened spontaneity allowed pupils like LilyG2 and WayneB3 to participate more fully in the animation process and to represent clearly what they learned in history. Acknowledging their out-of-school facility with technology also contributed to this. This visual multimodal representation of their stories is something they would have struggled to do in writing. In this sense by turning around to technology (Comber and Kamler, 2005), I was able to turn around histories of literacy failure because pupils could represent what they were learning in a mode other than print. Through engaging in peer-collaboration and the diversity of modes with which to represent their history learning, pupils could more equitably participate in all classroom activities. This was radically different than

the traditional methods of reading and writing pupils generally engaged in before I began this study. The linguistic diversity and experience distributed throughout the groups is to be expected in a DEIS classroom such as mine. The nature of their literacy practices was more inclusive when aligned with a multiliteracies pedagogy, which by its nature is agile, as it “seeks to include rather than marginalize” (Newfield and Stein, 2000, p.294).

### ***6.3.2 Agency and collaboration***

The multimodal design process of animation also opened up opportunities for pupils to exercise agency. I refer to agentic literacy practices as the ability of pupils to self-direct their actions, interactions, communication and decisions in collaboratively designing animations. The collaborative nature of the process of designing animations provided space for pupils to agentially draw on their levels of expertise within the plurality of the groups (Mills, 2011a) rather than passively accept the perceived authority of the teacher or of the history text-book, common in my practice pre-study. This agency was clearly connected to the supportive context nurtured through peer-scaffolding and timely guidance by me, as teacher, where novice participants were enabled to become more expert over the four month period of the action research.

Pupils’ literacy practices were more democratic as they aimed to evenly distribute active peer contributions when designing the animations, by their delineation of expertise through age, experience and talent and their insistence (across groups) for taking-turns and full, active participation. Other studies, with similar age children and activities, suggest the positive impact of collaboration on the nature of pupils’ literacy practices in terms of participation and learning (Lee and O’Rourke, 2006; O’Rourke, 2005). The nature of the agentic participation of pupils in this study indicates their ownership of the animation process. Younger pupils were less likely than their older peers to engage critically. But rather than younger

inexperienced pupils being marginalised, a genuine risk given the peer-directed nature of groups and the diversity of ages, older pupils agentively organised the work within each group to maximise participation. Criteria such as turn-taking from youngest to the oldest helped inexperienced and younger pupils to gain experience as quickly as possible in order to participate fully and actively.

Interestingly the nature of the pupils' practices when working with peers replicated the same approach that I implemented through overt instruction-explicit information and question posing. Pupils learned from each other and the nature of their communication was to freely engage in conversation-style peer discussion to explore, share and critique their ideas even in the simplest form, including question posing and directional language (Lee and O'Rourke, 2006) such as '*why don't you*' and '*try this*' to autonomously steer the animation process.

#### *Agency and critical thinking*

Pupils had to distil their story to key messages and ideas in order to make an animation (O'Rourke, 2005). This was achieved by pupils' literacy practices becoming more analytical and reflective, engaging in higher-order thinking skills of problem-solving, evaluation and criticality (DES, 1999), in making and defending decisions regarding both content and features of their animations. These critical thinking skills were as important to successfully designing animations as the technology skills involved. Pupils had to negotiate the best way to combine image, sound and text to clearly convey their story and to command audience attention. Their engagement in critical framing showed their ownership of the process (Jeffrey and Craft, 2004), and later the finished animated films, with their literacy practices more self-directed. The multimodal design enabled pupils to engage in flexible thinking which facilitated problem-solving, that resembled 'little-c' (Craft, 2000) or personal-creativity (Boden, 2004, 1990), such as their discovery of the 'slit-technique', which was new to them but not necessarily new to the universal technical landscape of animation.

It was plain to see the pupils' enthusiasm for and engagement in the animation design process. These powerful responses led to positive levels of pupil motivation and participation, evidenced in other similar classroom studies (Mills, 2011a; Watts, 2007; O'Rourke, 2005). Some younger pupils displayed signs of anxiety with regard to the new multimodal practices as well as the new collaborative way of learning. However this appeared to be overcome by guided teacher support and supportive peer-scaffolding.

Pupils literacy practices were resilient as their ideas were critically negotiated, and either accepted or rejected. Pupils also showed resilience in terms of their response to the critiquing of their characters as they created and animated them. As well as showing the agency and autonomy of the groups to decide the content, this evidences the maturity and resilience of pupils whose ideas were rejected, given their young age but still accepted the group decision and continued to contribute productively to the project. This resilient nature facilitated self-direction and agency within the collaborative groups and active participation by all.

#### *Agency and increased motivation and engagement*

Participating in producing animations increased levels of motivation and agentive engagement throughout the process, most evident on occasions where activity coincided with lunch and home-time and yet the pupils wanted to continue filming. Some pupils began preparation twenty minutes before official class time (Group 3, Reflective diary, 2/2/2013). Other class teachers wondered what I was doing in my classroom, with pupils motivated and enthusiastic enough to knock on the staff-room door at the immediate end of lunch-break to inform me they were "*ready to start*" [filming] (Reflective diary, 12/2/2013). This is similar to findings from other studies involving young pupils and e-learning tasks (Mills, 2011a; Watts, 2007; O'Rourke, 2005). Such engagement could also be attributed to the fact that pupils were aware they were being filmed. However, that novelty would have worn off after the initial days while pupils maintained active engagement throughout the 29 hours of

footage. Designing animations has significant potential to motivate and engage pupils in agentive literacy practices.

### ***6.3.3 Multimodal literacy practices***

The design of animation involved a shift in the nature of how pupils communicated and represented their learning, from traditional print-based linguistic modes of reading and writing to engage multiple modes of visual, auditory, spatial and gesture (NLG, 2000). The complex use of these semiotic sign-systems (Kress and Van Leeuwen, 2010; Kress, 2000) in the multimodal digital practices evident in the finished animations, powerfully enabled pupils to transform the history curriculum, from information initially presented in written or oral form (grandparents' stories) to the articulation of multiple modes of representation as watchable animated films. Pupils were better able not only to learn content but also empowered and motivated to represent that learning in ways that I had not experienced before this study. While engaging colour, image, movement and sound to represent their history learning, pupils demonstrated originality, flexibility and a cognitive grasp of the curriculum content. Animation opened up opportunities for new semiotic possibilities for pupils (Mills, 2011a) through the degree of accessibility the multimodal literacy practices allowed.

The pupils' notion (and also mine) of what counts as valid literacy broadened, evident in their acceptance of the oral linguistic mode in delivering content, when some stories were not written but recalled in oral form, increasing participation and evidencing a turn-around to their literacies (Comber and Kamler, 2005). Their acceptance of grandparents' stories as valid content in history also illustrated a broadening of their critical literacy, where pupils deemed these stories to be relevant and authentic sources of knowledge (Bloome and Egan-Robertson, 1998), and allowed pupils to draw on their 'funds of knowledge' (Moll et al., 1992) by building on the familiarity of their family stories.

The nature of pupils' literacy practices was collaborative and agentic, affording responsible engagement, accessibility and increased motivation, particularly leveraged by the pluralities of age and ability within each working group when I implemented e-learning in my history classroom.

#### **6.4 Does using a multiliteracies pedagogy foster the teacher's creativity as a pedagogue? If so, in what ways?**

In this section I discuss the features of creative teaching I found to be present in my practice as I implemented e-learning through the four components of a multiliteracies pedagogy.

While all four components were present in my practice, *overt instruction* and *critical framing* were strongest in enabling the more explicit interactive pedagogical features of creative teaching 'shared control', 'standing back', 'improvisation' and 'shared ownership'. The *situated practice* and *transformed practice* components fostered the more conceptual features of creative teaching 'originality/innovation', 'open-ended challenge' and 'making connections/relevance'. The features of creative teaching were often simultaneously present. In the discussion, I foreground each component of multiliteracies pedagogy and the degree to which it fostered creative teaching in order to answer my third research question. I also found some creative teaching features to be inextricably linked to the nature of pupils' literacy practices, such as 'shared control' with collaboration, and 'shared ownership' with agency.

##### **6.4.1 Overt instruction, shared control, standing back and improvisation**

When engaged in overt instruction (NLG, 2000), creative teaching manifested as the features of 'shared control' and 'standing back'. These denoted my need to alternate between proximity and distance in my teacher-peer interactions; from actively and directly guiding to facilitating and guiding through a more "invisible pedagogy", (Cremin et al, 2006; Bernstein, 1977) as the situation and needs of learners required. I coined the term 'agile pedagogy' to describe the varying proximity in my interactions with pupils, as teacher, to ensure full

participation, accessibility and engagement by all the pupils. My agile pedagogy collectively incorporates the creative pedagogic features of ‘*shared control*’, ‘*standing back*’ (Cremin, 2009; Jeffrey and Craft, 2004) and ‘*improvisation*’ (Sawyer, 2004) as teacher creativity while engaged in overt instruction, which I discuss in the following section. Agile pedagogy, as creative teaching, was underpinned by my contextual knowledge or *enlightened spontaneity*, a category I found on analysis to be present in these features of creative teaching in my practice (*Figure 12*).

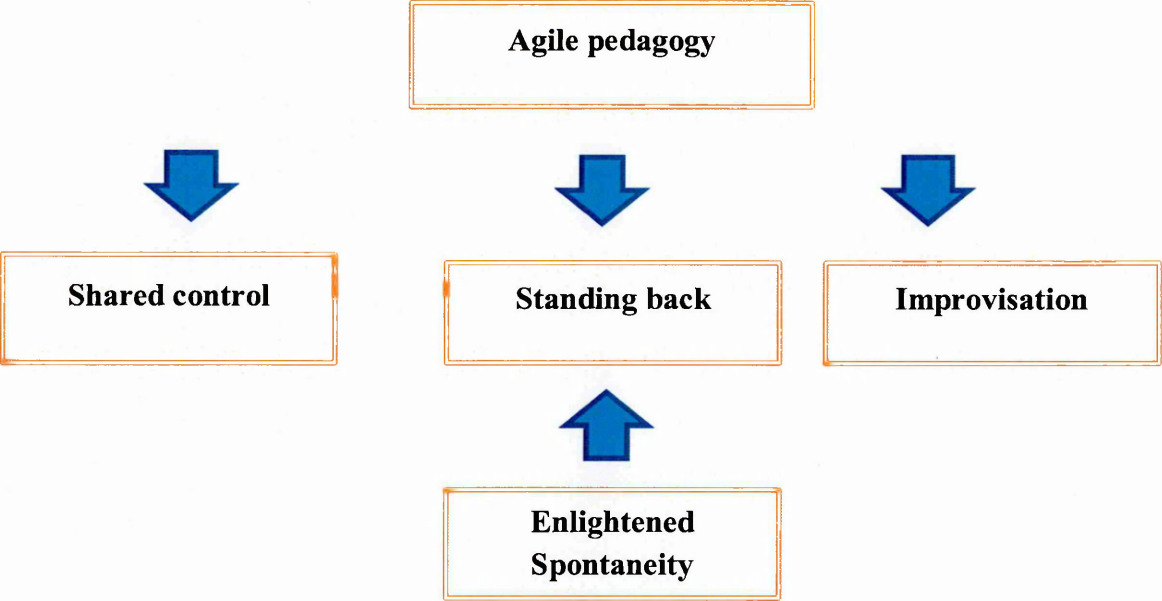


Figure 12 Agile pedagogy

6.4.2. Overt instruction and agile pedagogy

Classroom practitioners operate under complex pluralities, historical and contextual, of activities, location, people and differing viewpoints/understanding, to act in and with others (Arendt, 1978). This required me to act with ‘enlightened spontaneity’ every day; dealing with change, unpredictability and uncertainty but intuitively using the wisdom of my practice and understanding of my context and pupils to inform decision-making and actions.

Throughout the design process I incorporated the *overt instruction* component of a multiliteracies pedagogy (NLG, 2000), to introduce animation to my pupils. This epitomised shared control, standing back and improvisation or ‘agile pedagogy’ as creative teaching; moving from an initial teacher-led, formal class lesson to more spontaneous guided overt instruction, based on contextual knowledge and timely guidance as needs arose. This timely guidance or ‘enlightened spontaneity’ occurred as I gradually released and shared control of the design process with pupils (Chappell, 2008; Cremin et al., 2006). This agility represented an open-ended challenge (Thomson et al., 2012) where I, as teacher, was more creative in requiring the pupils to collaboratively design animations rather than replicate information given to them. I encouraged participation from all pupils and re-iterated throughout, the importance of including and discussing everyone’s ideas. This was crucial to later analysis of the pupils’ peer interactions. As teacher, I was modelling the process of participating, sharing, negotiating and inclusion. Overt instruction after the initial stage was through improvised interventions, which were supportive rather than transmissive.

My teaching role was adapting, to afford my classroom for the collaboration, exploration and agency pupils needed to design the animations. Exploration, however, was not limitless; pupils needed some degree of structure to be productive, particularly in a large multi-age class such as mine (Mills, 2011a; Craft, 2005) hence the need for ‘agile pedagogy’. Overt instruction on ‘how to’ use e-learning at the introduction of each new aspect of animation was necessary as it consequentially enabled the pupils to work more autonomously and stood to scaffold more independent learning, indicating the importance of ‘knowing how’ in the process (Chappell, 2008), such as where the teams set up the film-station before class began in the morning (Reflective diary, 4, 7 & 12/2/2013). Such pedagogy balanced levels of overt instruction with opportunities for exploration; autonomous, collaborative group work co-existed with overt instruction without hindering each other. This resonates with Sawyer’s



(2011) notion of ‘disciplined improvisation’ or giving pupils time and space to generate and develop their own ideas. This was critically important for shared control; therefore, I was not overtly teaching at all times. I used 360° observation, a constant awareness of what was going on, generating ‘spaces for learning’ (Sugrue, 2006a) so that I could observe pupils being peer-scaffolded. My teacher role became more, or less, visible as pupils’ needs demanded, and an agile degree of structure or guidance was needed, for the group to collaboratively negotiate every aspect for inclusion or exclusion, leading to creative and innovative representation of their work. The challenge for me as teacher, implementing a new pedagogy was not to be threatened by the inevitable power shift in the classroom; in practice, not to jump in too soon to intervene, but not to over-challenge pupils and neglect learning opportunities either, thereby acting with *enlightened spontaneity*. There was a proximal continuum from overt instruction to peer-scaffolding to independent learning as each stage of the animation process unfolded. This judgement was difficult at times and required personal discipline, patience, experience and trust. While this study explores the pedagogical features of creative teaching I acknowledge that these are personal dispositions which may also account for my pedagogical creativity, something this study did not explore.

#### **6.4.3. Situated practice and making connections/relevance**

By collecting a story from grandparents, pupils could link the familiarity of family to school learning. This allowed pupils to move beyond the classroom (Thomson et al., 2012) to generate knowledge and to situate curriculum content in their lifeworlds, thus making learning more relevant to them. It enabled the pupils to act as real historians through gathering and analysing evidence from the past in the form of a genuine, lived story, which pupils trusted as authentic.

These stories provided the curriculum basis, transforming simple stories to the narrative form of animated films to re-present the pupils’ curriculum and social learning that was situated

and relevant to pupils. Further connections were made between home and school in creating a blog to share the animations and gain feedback. The stories overtly permitted pupils to bring home into school, acknowledging the “dialogic relationship” (Pahl and Rowsell, 2005, p. 91) when home and school influence each other. Home can be neglected in the curriculum but in this instance ‘out-of-school’ merged with ‘in-school’ learning, by school importing pupils’ out-of-school worlds through stories from grandparents, and real-life knowledge of some of the technical elements used to transform them. Children viewed their own stories as a valid form of literacy and learning. This resembles the notion of ‘turn-around pedagogies’ (Comber and Kamler, 2005). By situating history learning in producing animations, I was turning around to and making connections with their starting points as users of technology but also their rural backgrounds, to authentically inform their learning rather than imposing an external starting point from a text book. The importing of out-of-school worlds practices extended to technology practices usually reserved for home such as knowledge of iPod apps, iTunes and MP3s. Making these connections (Cremin, 2009) enabled pupils to represent their comprehension of the e-learning process. This is evident in the completed animations. Connections between modes were made (Kress and Van Leeuwen, 2010) with pupils creating imaginative sound effects to link visual and audio or transmediation (Mills, 2011 a), from footsteps, rainfall and voice overs to the sound of a butter churn. Pupils connected the details from the collected stories, to imaginatively re-represent and demonstrate what they learned about life in the past in a new way.

#### ***6.4.4 Critical framing and shared ownership***

Shared ownership, a feature of creative teaching as negotiation between the teacher and pupils through self and peer assessment, was evident throughout the animation process in the form of critical framing, the on-going evaluation of relevant content being selected and presented. The design process allowed time and space for pupil voice and direction and

therein, ownership of their own learning. This reflects the NCCA (2007b) recommendation for incorporating a spectrum of involvement in classroom assessment of teaching and learning, moving from teacher to pupils. Pupils could identify both strengths and weaknesses in their use of animation in learning. The animation process allowed critical evaluation (Buckingham, 2013; NLG, 2000) and thereby encouraged more reflective pupil work. I enabled pupils, through the process of making a film, to stand back from what they were learning and to view it critically in relation to their own context. This necessitated a major shift from my central role, to a less visible role of guide, from a 'sage on the stage' to a 'guide on the side' (King, 1993), as I gave pupils the time and space to generate, explore and negotiate their own ideas.

Pupils, supported by the teacher, explored and critically framed the animation content and features, in terms of visual, spatial and auditory modes, to engage image, sound, movement, text and sound. Among the details they collectively chose to include, incorporating both curriculum and social learning, were rural farming, renting a TV, involvement of religious orders in schools, walking to school, turf as fuel, pupils providing this fuel, an open fire in the classroom, rough undeveloped roads, abundance of rain (sound effect) and walking barefoot to school. Engaging critical framing accommodated critically situating experiences from everyday life to the classroom situation (Bearne, 2003) allowing their influences to 'join up' with school text-making in the 3<sup>rd</sup> space, (Pahl and Rowsell, 2005) that animation facilitated as shared ownership. These home-school connections were unearthed through negotiated meaning in collaboration with each other, with pupils critically and analytically considering all ideas presented by the group, verbally, visually, auditory or spatially in terms of the perceived audience.

Because of the agency afforded by 'shared ownership', the democratic nature of pupils' decision-making and assigning of roles became evident. No exceptions were made; there was

an implicit expectation that all pupils needed to work effectively to create the film, despite notable discrepancies in ability and age. This validates the inclusive aspirations of a multiliteracies approach (Newfield and Stein, 2000).

*Critical framing, shared ownership and open-ended challenge*

The 'open-ended challenge' (Thomson et al., 2012), while a feature of creative teaching, and encompassing the essence of 'agile pedagogy' and 'shared ownership', is less explicitly interactive as a pedagogical feature. It emerged in this study, while engaged in critical framing, as conceptual; as the evaluative nature of the design of the e-learning task to produce animations. This enabled me to further share ownership of learning with the pupils. Teachers in Irish primary schools in reality have a great deal of autonomy with regard to classroom assessment. As part of an enterprise-based curriculum (Smith, 1988) which has much in common with a creative 'open-ended challenge', one criterion is an absence of grades (Smith, 1988). Irish primary schools to a great extent share this autonomy with evaluation. Although there is standardised Literacy and Numeracy testing, obligatory to report to the DES at the end of 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> classes (ages 8, 10 and 12), professional responsibility for assessment of and for learning and teaching lies with the principal and ultimately the class teacher. It is not dependent on formal grading but allows for choice of a continuum of assessment methods from formal to informal, involving both teachers and pupils (NCCA, 2007b, p. 13). The open-ended challenge of designing animations represents a major shift away from my normal assessment practices which tended to be teacher-centred written questions, with no authentic input from pupils other than in providing answers. The entire multimodal design process and resulting collaborative and agentic nature of pupils' literacy practices challenged me to reflect on suitable evaluation that would suit the teaching and learning activities, the open-ended unlimited choices facilitated by multimodality (Thomson et al., 2012; Kress and Van Leeuwen, 2010). The critical framing component of

the multiliteracies pedagogy which resulted in ‘shared ownership’ of the animation design process also resulted in ‘shared evaluation’ by me, as teacher, and the pupils. This study is in a position to positively evidence this as a feature of creative teaching. Pupils reflexively negotiated and designed multimodal texts and therein were a part of the evaluation process. Technological change, in the form of animated films via a multiliteracies pedagogy impacted on assessment in terms of what ICT and new technologies can do and how readily they are available (Craft, 2011). Pupils, while engaged in the open-ended challenge of animated film-making diffused the traditional authority in assessment to encompass a wider more democratic approach, and this increased my ability to engage pupils to share in the evaluation context.

#### ***6.4.5. Transformed practice and originality/innovation***

The creation of the blog reflected transformed practice and innovation, as a feature of creativity, in transferring pupils’ new digital literacy practices to a social forum such as a blog. This extended shared evaluation by allowing the pupils and myself to virtually ‘move beyond the classroom’ (Thomson et al., 2012) in receiving and responding to comments from Melbourne to New York (Appendix 18). The incorporation of a blog to host the finished animations so pupils could get ‘honest’ feed-back indicated the pupils’ belief that the animated films were relevant learning which required authentic reactions from a real audience. Transformed practice is that in which pupils transfer and recreate designs of meaning from one context to another (NLG, 2000, p. 31).

The pupils viewed their learning as relevant to other pupils both their age and younger so they could learn from it. The addition of the blog necessitated me learning how to do this in a ‘wise’ way (Craft, 2005) that would incorporate the aspects pertinent to pupils, a platform to share their learning and to enable comment. It necessitated flexible thinking on my part and a willingness not only to allow pupils to articulate their ideas but to act on them also.

### *Transformed practice and creative teaching*

A multiliteracies approach does not advocate excluding traditional print-based literacy practices, but rather recognises other modes of expression in school alongside the linguistic, which equally applies to creative teaching as originality/innovation. One of my primary aims was that, through a learner inclusive approach (Jeffrey and Craft, 2004) and collective participation, harnessed via multiliteracies pedagogy in recognising their diversities and plurality of their competencies, pupils would generate rather than replicate knowledge. My classroom practice was transformed, evidenced in how pupils collaborated, sharing control and ownership in agentively designing the animations. My teaching and assessment were creatively transformed, through enacting an agile multiliteracies pedagogy, which facilitated this transformation in the social interactions of pupils' literacy practices.

This study allowed me to show both pupils and myself, that visual literacy and multimodal design is a valuable, inclusive and authentic way of learning history in our classroom. This notion of literacy has become established as part of my practice, now having a valid and legitimate effect beyond that of novelty. My agile pedagogy, as part of a multiliteracies pedagogy, purposefully allowed multiple modes to count as literacy (Jewitt, 2008; Pahl and Rowsell, 2005). While I acknowledge the necessity of pupils to be competent with traditional print media, necessary for assessments in most education systems, there is also potential to accommodate and develop proficiency in other modes, to assist those pupils most at risk to have more opportunities to be engaged in the curriculum.

Implementing a multiliteracies pedagogy fostered teacher creativity in its situatedness and relevance to pupils' lifeworlds, the encouragement of bi-directional home-school technologies opportunities and its innovation and effectiveness in transforming practice through shared evaluation in the setting up of a blog.

Innovative and creative teaching as an agile pedagogy fit well with a multiliteracies pedagogy

that uses dynamic and ever-changing modes of representation, according to the learners' needs (Cope and Kalantzis, 2000).

### 6.5 Summary

In this chapter I discussed the design process and multimodality within the components of a multiliteracies pedagogy: *overt instruction*, *situated learning*, *critical framing* and *transformed practice* in implementing e-learning in my classroom. I discussed and evidenced therein, the nature of pupils' literacy practices through *collaboration*, *agency* and *multimodal design*. I also discussed the four components of multiliteracies pedagogy and how they fostered creative teaching. Using a multiliteracies pedagogy in my classroom allowed me to transform existing curricula into accessible and equitable entities that enabled e-learning opportunities for all participants (NLG, 2000). The concluding chapter will consider my methodological approaches of action research and pupil researchers, the significance of the study's finding and make recommendations for practice and policy at local level and indicate directions for future research.

## Chapter 7 Conclusion

### 7.1 Introduction

This study is the first practitioner action research study to examine the use of the four components of multiliteracies pedagogy to implement e-learning in a rural Irish primary classroom. Three main research questions drove the research:

1. *What happens when a teacher uses the four components of a multiliteracies pedagogy to implement e-learning in a rural, multi-age classroom in Ireland?*
2. *What is the nature of pupils' literacy practices when the teacher implements e-learning in history? and*
3. *Does using a multiliteracies pedagogy foster the teacher's creativity (as a pedagogue)? If so in what ways?*

The research explored the suitability of a multiliteracies pedagogy to effectively implement e-learning, to analyse the nature of pupils' literacy practices and the creativity of the teacher's (my) practice as a result of the introduction of a multiliteracies pedagogy and to make learning more relevant to pupils. This study is also one of the first Irish studies in a primary school to incorporate pupils as researchers. While not inflating the contribution of pupils, their findings while engaged as researchers proved invaluable in helping me to answer my second research question. My data illustrate that by introducing multiliteracies pedagogy I could better understand the features of creative teaching identified in the literature review, effectively implement e-learning and positively impact on pupils' literacy practices. In this chapter I first consider the methodological contribution of this study. Following this, I outline the implications and significance of my findings. Drawing on these, I outline recommendations for practice and policy.

### 7.2 Methodological contributions

#### *7.2.1 Action Research: reflection and the creative role of the teacher*

The two cycles of action research allowed me to reflect on my own practice, fostering educational "praxis", where I committed myself to use the four components of a



multiliteracies pedagogy to implement e-learning. I believed that my conscious action, rather than simply external circumstances, such as increased school funding or in-service training, would improve my practice (Kemmis, 1998; Bassey, 1995; Carr and Kemmis, 1986; Freire, 1970). I evaluated the impact of e-learning on the nature of pupils' literacy practices and my creativity as teacher. As I modified my practice I reflected in-depth on the teaching and learning activities evidenced throughout the animated film-making process. My identity as teacher and a researcher had to overlap, which was difficult at times as a teaching principal. I had less control when pupils were working in small independent groups, but my reflective analysis of the entire implementation has shown this shared control to be significant in effectively engaging pupils in e-learning and affording possibilities to generate their own ideas. An agile pedagogy, enacted through the components of multiliteracies pedagogy (NLG, 2000) enabled me to cater for the wide range of pupil needs, in the plurality of my multi-age and ability classroom in Ireland. The cyclical process of action research that I employed and continue to embody in my own practice was continuous. Each new action evolved from exploring social interactions rather than solely making deductions (Lewin, 1944). This led to new classroom practices. Collaboratively designing animations gave pupils opportunities to represent work in an original and innovative way, avoiding replication, and made my teaching creative and relevant.

### ***7.2.2 Pupil researchers and perspective***

Pupil research gave the pupils an authentic voice and, while guided by the teacher, research was led by the pupils, in a manner similar to pupil research in other countries (Thomson, 2008; Kellett et al., 2004). The possibilities this allowed were immense, where the pupils essentially chose their own foci, and conducted research to determine, measure and demonstrate their learning while engaging in e-learning. They engaged in reflective thinking and capably used technology arguably in advance of their years. The main constraint was the

time pressure, where as a teacher/researcher as well as collecting my own data, I was also teaching pupils how to gather and analyse their data. The pupil researchers made the entire animation design process more recognisable, by generating visible images through photographs and a Photo Story of the designing of animations (Appendix 16 a).

‘Standpoint research’ (Walsh and Kamler, 2013; Thomson and Gunter, 2007) or the experience of the pupils being the starting point, augmented the evaluative cycles of my action research. It enabled pupils to give their perspectives on how the animation process happened and why they appeared to strongly engage with animated film-making through new technologies. This enabled me to get a glimpse into their digital literacy worlds, which is difficult for teachers to authentically access. Pupils can reach their peers in ways not possible for adults because of power and generational issues. Inviting pupils to take on the role of researchers yielded a more nuanced understanding of their perspectives on e-learning and thus validly informed the conclusions in my study about the nature of pupils’ literacy practices. Pupils, positioned as experiential experts, had an opportunity to articulate their opinions and experience of using animated film-making in history through pupil-designed research-tools, based on their own experiences. They explained and defended their perspectives to other people, by presenting their findings to other pupils and teachers in the school.

I first evidenced pupils’ increasing confidence and agency in the pedagogical shift which occurred in Cycle 1 (2011-12), when pupils were given more space, autonomy and opportunity to design, create and reflect on their animated film projects. I allowed for this and intentionally planned and enacted a more ‘invisible’ pedagogy (Bernstein, 1977). Pupils as researchers necessitated the same change in pedagogical structure. I enabled fuller participation by pupils, by sharing control and ownership, trusting and supporting them to explore their own ideas regarding the impact of animation on their learning. This gave them

constructive opportunities to design peer research to contribute to my question about the nature of their literacy practices when designing animated films in the classroom.

### **7.3 Contributions to teaching, learning and knowledge**

Much research on e-learning implementation in education highlights appropriate classroom pedagogy to be as significant for effective teaching and learning as the technologies used (Buckingham, 2013; Diamond and Irwin, 2013; Probert, 2009; Twining, 2008; Somekh, 2000). My classroom study adds to this position and further concludes that making animated films in history enabled effective implementation of e-learning for the benefit of pupils' motivation and learning. This pedagogy involves the teacher viewing pupils as empowered by e-learning, equipping them to deal with a future they cannot yet conceptualise (Craft, 2013) and using the components of a multiliteracies pedagogy to empower pupils to become co-producers of knowledge (Walsh, 2009, 2007; NLG, 2000).

It is argued that designing animations gives pupils an opportunity to engage in a more expansive repertoire of literacy practices (Mills, 2011a; Lee and O'Rourke, 2006). Findings of this study contribute to this position by indicating that the design process of animation necessitated pupils learning new digital e-learning practices. One practice was *transmediation* (Mills, 2011a), accurately fitting sound to visuals. Another was what I term *intermodality*, the stop-motion repositioning of 2-d characters co-ordinated with their appearance on the screen of the animation programme giving the impression of movement. This study also contributes findings which indicate designing animations provides ample opportunity for pupils to collaboratively discuss possibilities and solve problems. Such participation stimulates pupil agency through design, self-determination, problem-solving and resilience. Designing animations provides increased opportunities for curriculum accessibility. Teaching and learning were transformed in this study through collaborative redesign of aspects of the history curriculum and the creation of new tasks.

This study establishes a valuable link between the components of multiliteracies pedagogy and the features of creative teaching. Multiliteracies pedagogy required enacting a creative, agile pedagogy that supported a non-routinised way of working (Bereiter and Scardamalia, 1993). Pedagogy varied in degrees of proximity and distance as the needs of the pupils required (Chappell et al, 2009), incorporating a fluidity of relationships. 'Agile pedagogy' is this varying proximity in the teacher's interactions with pupils, a proximal continuum that ensures fuller participation, accessibility and engagement by all pupils. It collectively incorporates the creative pedagogic features of '*shared control*', '*standing back*' (Cremin, 2009; Jeffrey and Craft, 2004) and '*improvisation*' (Sawyer, 2004) while engaged in the overt instruction component of a multiliteracies pedagogy (NLG, 2000). *Enlightened spontaneity*, this study indicates- as informal overt instruction (NLG, 2000) - is also a component of such creative practice. This is characterised by the teacher's spontaneous and responsive interventions which are informed and enlightened by the teacher's contextual and situational knowledge of pupils and their classroom experience.

#### **7.4 Recommendations for practitioners**

Based on the findings from this study, I argue there is a need to welcome e-learning and multimodality into our classrooms alongside traditional forms of literacy, to incorporate 21<sup>st</sup> century interpretation, communication and representation of information. Multiliteracies is a responsive pedagogy that can address this need. If the findings of this study are to be capitalised on, teachers need to challenge the autonomy of standard traditional school practices in teaching, learning and assessment processes. Additionally, e-Learning can harmonise with the improvement of literacy practices espoused in the Irish National Literacy and Numeracy Strategy (DES, 2011) and the School Self-Evaluation process (DES, 2012) in terms of improving learning to learn, engagement in learning and assessment and teaching approaches.

Pedagogy can be more effective if teachers 'turn around' (Comber and Kamler, 2005) to pupils and see them as central and autonomous rather than merely use their interest in ICT to bring them to where teachers want pupils to be or what teachers want pupils to do. By enacting an agile, multiliteracies pedagogy, teachers can invite pupils' out-of-school media habits and cultural interests into the classroom. There is classroom potential in welcoming pupils' facility with technology, through their out of school use, both to motivate and to develop new digital practices. This impacts positively on pupils' motivation to engage in curriculum learning and should continue to be part of my own classroom pedagogy. The design of the task is essential, and should necessitate collaboration and recognise pupil autonomy. This has future implications for teachers and pupils in practice when designing such tasks.

Teachers should combine collaborative and e-learning activities to powerfully motivate more active participation and fuller pupil engagement. There are positive implications and possibilities for pupils' access to classroom learning within the pluralities leveraged in the multi-age and ability composition of the collaborative class groups. This study recommends mixed age and ability collaborative classroom groups to facilitate fuller participation and engagement in e-learning by pupils of this age-group.

e-Learning implemented as a learning tool, and not a subject, is a strength of the Irish Primary Curriculum (DES, 1999). Teachers should exploit this positively by integrating e-learning across the curriculum, such as history in this study, rather than being limited to discrete ICT time. Teachers in Ireland have relative control over the shaping of the curriculum and the pedagogies involved in teaching. The classroom environment should incorporate the resources within it (not a separate ICT room) in order to exploit this autonomy fully to centrally and effectively employ e-learning within an agile, multiliteracies pedagogy.

Pupil research can extend the agency that pupils engaging in e-learning can realise. This study recommends that teachers make use of the authentic voice research affords pupils, as partners in education (DES, 1999) with regard to relevant aspects of schooling that impact on them every-day. When they are equipped with appropriate and relevant skills, pupils can competently contribute. As with e-learning, this study concludes that pupils need overt teacher instruction and support to become researchers. This needs consideration at local level. Pupil research also requires the support of other teachers in the school to recognise and maintain its fullest potentials.

#### ***7.4.1 Transformation of practice in similar contexts***

This study has resonance for practitioners in similar rural and multi-age contexts. Although my data provides convincing evidence in my own context, findings may also pertain to similar contexts. This is not to suggest the findings are generalizable or indeed definitive. They are specific to the context in which the research was carried out. The findings evidence what transformed practice may look like in other similar teaching and learning situations when the components of multiliteracies pedagogy are implemented in a history curriculum. Such practice would be characterised by mutual trust and respect for shared ideas. The teaching would provide space for collaborative negotiation and exploration of ideas. A classroom transformed by multiliteracies pedagogy explicitly provides the necessary information to develop technological skills, while also acknowledging the contribution of pupils' out-of-school experiences. In a transformed practice, use of technology contributes to the development of teaching, learning and literacy practices. Rather than over reliance on text books, pupils' own lifeworlds and experiences contribute to the curriculum and learning outcomes.

### **7.5 Recommendations for policy-makers**

The notion of a multiliteracies pedagogy is a relatively new concept in Ireland. Limited research about its use in Ireland emerges from the literature. As such, this study recommends that in order for multiliteracies pedagogy to gain recognition as a capable vehicle for effective and creative implementation of e-learning in Irish primary classrooms, the concept needs to be introduced, at the very least, at continuing professional development level for teachers.

As an educator, intermingling our paradoxical role to enable and also to protect (Craft, 2011) can be a difficult element of technology use in the classroom. But teachers need to balance this role, not abandon it. To address the competing discourses of young people as susceptible to digital risks and pupils as competent and capable digital users, teachers should creatively engage e-learning, such as through animated film-making, as productive capital (Carrington and Luke, 2010, 1997) to produce more effective pupil learning outcomes.

There has been increasing interest in the pupil research findings since this study began. The findings of both teams of pupil researchers were published on a national website (FÍS) that facilitates the introduction and implementation of film-making in schools. This interest indicates that some mainstream teachers are becoming aware of the benefits of creatively enacting e-learning in their classrooms. Pupils are motivated by use of e-learning and also see it as a valuable source of information. However, it is pertinent to raise teacher and policy-maker awareness that, regardless of how proficient pupils are with technology, they need overt instruction to realise the productive potentials of these proficiencies in school. Regular review of the school's Acceptable Usage Policy is also recommended, to be accountable for the ways technology is being infused into the curriculum, especially when it involves out-of-school technologies.

This study recommends, based on findings, the four components of multiliteracies pedagogy be leveraged to implement e-learning effectively in a rural, multi-age classroom so that e-

learning is integrated across teaching, learning and assessment. As a teaching principal I am in a position to effect and promote this as a whole school policy. The imminent Digital Strategy for Schools, currently being developed in Ireland, should address this issue of appropriate pedagogy, such as multiliteracies pedagogy, to effectively implement e-learning in schools.

### **7.6 Directions for future research**

Broadly, the aim of this action research extends beyond improving my own practice to sharing findings and influencing others in a similar context or with similar research interests (Koshy, 2010; Somekh, 2006). This study has engaged in rigorous analysis of all data sets and has generated authentic evidence from my practice.

Further to the pedagogical considerations researched in this study, in terms of the features of creative teaching, further research would be timely on '*personal disposition*' and '*school ethos*' (Cremin, 2009) as dimensions of creative teaching.

While this study outlines features of creative teaching, apparent through the components of a multiliteracies pedagogy, there are considerations for continuing research in other mixed-class levels, with both older and younger pupil groupings. It was beyond the confines of this study, in terms of time, to analyse if this transformation of pupils' literacy practices and teacher's creative pedagogy transfers to other curriculum areas, although scope for this possibility was highlighted in group interviews, and the addition to the blog of animations produced by the pupils in the Irish language, Maths and Music (May 2013; October 2013; April 2014; September 2014). Therefore cross-curricular transfer of transformed pupils' literacy practices and teacher's creative pedagogy would be worthy of testing through research.



### **7.7 Summary**

The findings of this study, in answering my research questions, have shown that the design process and multimodality within the four components of multiliteracies pedagogy in implementing e-learning in my multi-age rural classroom enabled pupils to effectively communicate, interpret and represent their learning in history. It indicates that multiliteracies pedagogy can enable innovative, effective and creative pedagogical features that in turn facilitate active, agentive and collaborative participation by pupils in e-learning activities relevant to their life-worlds.

This chapter has drawn on the findings of this study to make recommendations for policy and practice in relation to e-learning in a primary classroom. It is hoped these findings will contribute to the development of effective e-learning implementation in rural primary schools so that the positive possibilities for both pupils and teacher can be fostered beyond the bounds of the current work.

## References

- Abrami, P.C., Bernard, R.M., Wade, C.A., Schmid, R.F., Borokhovski, E., Tamim, R., Surkes, M., Lowerison, G., Zhang, D., Nicolaidou, I., Newman, S., Wozney, L. and Peretiatkiewicz, P. (2006) *A Review of E--learning in Canada: A Rough Sketch of the Evidence, Gaps and Promising Directions*, Canadian Council for Learning, Montreal.
- Aged and Community Services Australia (2008) *Putting Learning back into E-learning: A Survey of Good Practice in e-Learning*, Deakin, Australia.
- Anderson, J. (2005) IT, e-learning and teacher development, *International Education Journal*, ERC2004 Special issue No. 5, pp. 1-14.
- Arendt, H. (1978) in Somekh, B (2006) *Action Research, a Methodology for Change and Development*, Open University Press.
- Auerbach, E. (2001) in Huijter, H. (2006) Refocusing multiliteracies for the net generation, *International Journal of Pedagogies and Learning*, Vol. 2, No.1, pp. 21-33.
- Ball, S. (2003) in Craft, A. (2011) *Creativity and Education Futures- learning in a digital age*. UK, Trentham Books.
- Banaji, S. and Burn, A. with Buckingham, D (2006) *The rhetorics of creativity: A review of the literature*, Institute of Education, University of London.
- Barnes, J., Hope, G. and Scoffham, S. (2008) A conversation about creative teaching and learning in Craft, A., Cremin, T. and Burnard, P. (eds) *Creative learning 3-11 and How we Document It*, UK, Trentham Books.
- Bassey, M. (1995) "On the kinds of research in educational settings" in Bassey, M. (1995) *Creating Education through Research: a global perspective of educational research for the 21<sup>st</sup> century*, Newark, Kirklington Moor Press, in association with the British Educational Research Association, pp. 32-52.
- Bearne, E. (2003) Rethinking literacy: communication, representation and text, *READING Literacy and Language*, UKLA, Blackwell Publishing Ltd.
- Beetham, H., Little John, A. and McGill, L. (2010) *Beyond Competence: digital literacies as knowledge practices, and implications for learner development*, ESRC Seminar Series for the Digital University (LiDU).
- Bereiter C. and Scardamalia, (1993) in Gee, J.P. (2000) in Cope, B. and Kalantzis, M. (eds) *Multiliteracies: Literacy Learning and the Design of Social Futures*, New York and Oxon, Routledge.
- Bereiter, C. (2002) in Sawyer, K. (2004) Creative teaching: Collaborative Discussion as Disciplined Improvisation, *Educational Researcher*, Vol. 33, No. 2, pp. 12-20.
- Bernardo, J.T. (2012) Description, Analysis and Interpretation in Qualitative Research, [Online] Available at [http://www.personal.psu.edu/jtb17/blogs/j\\_t\\_bernardo/2012/description](http://www.personal.psu.edu/jtb17/blogs/j_t_bernardo/2012/description) (Accessed 5 November 2013).
- Bernstein, B. (1977) Class and pedagogies: visible and invisible in Karable, J. and Halsey, A. (eds) *Power and Ideology in Education*, New York, Oxford.
- Biggs, J. (1999) *Teaching for Quality Learning at University*, Buckingham Society for Research in Higher Education, Open University Press.
- Bloome, D. and Egan-Robertson, A. (eds) (1998) *Students as researchers of culture and Language in their own Communities*, Hampton Press.
- Boden, M.A. (1990, 2004) *The Creative Mind Myths and Mechanisms*, 2<sup>nd</sup> edition, Oxon, Routledge.
- Bonawitz, E., Shafto, P., Gweon, H., Goodman, N.D., Spelke, E. and Schulz, L. (2011) The double-edged

sword of pedagogy: Instruction limits spontaneous exploration and discovery, *Cognition*, Vol. 120, p. 322-330.

Bottino, R. M., Ferlino, L., Ott, M. and Tavellam, M. (2007) Developing strategic and reasoning abilities with computer games at primary school level, *Computers and Education*, Vol. 49, pp. 1272-1286.

Bourdieu, P. (1986) The forms of capital in Richardson, J. (ed) (2000) *Handbook of Theory and Research for the Sociology of Education*, New York, Greenwood, pp.241-258.

British Educational Research Association Guidelines (2011) [Online] Available at

<http://content.yudu.com/Library/A1t9gr/BERAEthicalGuideline/resources/index.htm?referrerUrl=http%25253A%25252F%25252Fwww.yudu.com%25252Fitem%25252Fdetails%25252F375952%25252FBERA-Ethical-Guidelines-2011> (Accessed 27 December 2011).

Brown, A.L. and Campione, J.C. (1994) in Cope, B. and Kalantzis, M. (eds) *Multiliteracies Literacy Learning and the Design of Social Futures*, New York and Oxon, Routledge.

Brookfield, S. (1990) 'Using Critical Incidents to Explore Learners' Assumptions' in Mezirow, J. (1990) *Fostering Critical Reflection in Adulthood: A guide to transformative and Emancipatory Learning*, pp. 177-193, Jossey-Bass Publishers.

Bruner, J. (1999) Folk Pedagogies in Leach, J. and Moon, B. (eds) (1999) *Learners and Pedagogy*, The Open University.

Buckingham, D. (2013, 2003) *Media Education: Literacy, Learning and Contemporary Culture* [Amazon Kindle] Cambridge, Polity Press.

Burnard, P. (2011) Constructing assessment for creative learning in Sefton-Green, J., Thomson, P., Jones, K. and Bresler, L. (eds) *The Routledge International handbook of Creative Learning*, New York and Oxon, Routledge.

Carr, W. and Kemmis, S. (1986) *Becoming Critical: education, knowledge and action research*, Deakin University Press, Routledge Falmer.

Carrington, V. and Luke, A. (2010, 1997) Literacy and Bourdieu's Sociological Theory: A Reframing, *Language and Education*, Vol. 11, No. 2, pp. 96-112, Published online 2010. Available at <http://dx.doi.org/10.1080/09500789708666721> (Accessed 20 March 2014).

Chappell, K. (2007) The dilemmas of teaching for creativity: Insights from expert specialist dance teachers, *Thinking Skills and Creativity*, Vol. 2, No.1, pp. 39-56.

Chappell, K. (2008) Facilitating creative learning in dance education in Craft, A., Cremin, T. and Burnard, P. (eds) *Creative learning 3-11 and How we Document It*, UK, Trentham Books.

Chappell, K. and Craft, A. (2011) Creative learning conversations: producing living dialogic spaces, *Educational Research*, Vol. 53, No. 3, pp. 363-385.

Chappell, K., Craft, A., Rolfe, L. and Jobbins, V. (2009) Dance partners for creativity: choreographing space for co-participative research into creativity and partnership in dance education, *Research in Dance Education*, Vol. 10, No. 3, pp. 177-197.

Charles, M., Burt, D. and Williams, M.K. (2011) Lessons from New Zealand, *Learning and Leading with Technology*, Vol. 38, No. 4, pp. 22-25.

Clark, A. (2010) Young children as protagonists and the role of participatory, visual methods in engaging multiple perspectives, (Society for Community Research and Action), *American Journal of Community*

*Psychology*, Vol. 46, pp. 115-123.

Clark, R.E. and Sugrue, B. (1995) in Canadian Council for Learning (2006) *A Review of E--learning in Canada: A Rough Sketch of the Evidence, Gaps and Promising Directions*, Montreal, Quebec.

Cohen, L., Manion, L. and Morrison, K. (2007) *Research Methods in Education*, (6<sup>th</sup> edition), New York and Oxon, Routledge.

Comber, B. and Kamler, B. (2005) *Turn-around pedagogies: Literacy Interventions for at-risk students*, Australia, Primary English Teaching Association.

Condie, R. and Livingston, K. (2007) Blending online learning with traditional approaches: changing practices, *British Journal of Educational Technology*, Vol. 38, No. 2, pp. 337-348.

Cope, B and Kalantzis, M. (eds) (2000) Introduction: Multiliteracies: the beginnings of an idea, *Multiliteracies: Literacy Learning and the Design of Social Futures*, Oxon and New York, Routledge.

Craft, A. (2000) *Creativity Across the Primary Curriculum*, London, Routledge.

Craft, A. (2001) *Little c Creativity*, *Creativity in Education*, pp. 45-61, London, Continuum.

Craft, A. (2005) *Creativity in schools Tensions and Dilemmas*, London, Routledge.

Craft, A. (2006) Fostering creativity with wisdom, *Cambridge Journal of Education*, Vol. 36, No.3, pp. 337-350.

Craft, A., Cremin, T. and Burnard, P. (2008) *Creative Learning 3-11 and How We Document it*, UK, Trentham Books.

Craft, A. (2011) *Creativity and Education Futures- learning in a digital age*, UK, Trentham Books.

Craft, A. (2012) Childhood in a digital age: creative challenges for educational futures, *London Review of Education*, Vol. 10, No. 2, pp. 173-190.

Craft, A., McConnon, L. and Matthews, A. (2012) Child-initiated play and professional creativity: enabling four-year-olds' possibility thinking, *Thinking Skills and Creativity*, Vol. 7, No. 1, pp. 48-61.

Craft, A. (2013) Childhood, possibility thinking and wise, humanising education futures, *International Journal of Educational research*, Vol. 61, pp. 126-134.

Cremin, T., Craft, A., Burnard, P. with Duffy, B., Hanson, R., Keene, J., Haynes, L. and Burns, D. (2006) Documenting 'possibility thinking': a journey of collaborative enquiry, *International Journal of Early Years Education*, Vol. 14, No.3, pp. 243-262.

Cremin, T., Burnard, P. and Craft, A. (2006) Pedagogy and possibility thinking in the early years, *Thinking Skills and Creativity*, Vol. 1, pp. 108-119.

Cremin, T. (2009) Creative Teaching and Creative Teachers in Wilson, A. (ed) *Creativity in Primary Education*, (2<sup>nd</sup> edition), Exeter, Learning Matters, pp. 36-46.

Cremin, T., Craft, A. and Clack, J. (2012) Creative little Scientists: Enabling Creativity through Science and Mathematics in Preschool and First Years of Primary Education, *Literature Review of Creativity in Education*, Appendix 2 of 4.

Creswell, J.W. (2007) *Qualitative inquiry and research design: choosing among five approaches*, Thousand Oaks, CA, Sage.

Cross, J. (2004) An informal history of eLearning, *On the Horizon*, Vol. 12, No. 3, pp. 103-110.

Csikszentmihalyi, M. (1991) in Sawyer, K. (2011) A call to action: The challenges of creative teaching and learning, *Teachers College Record*.

- Cuban, L. (2003) *Oversold and Underused: Computers in the Classroom*, Cambridge, MA, Harvard University Press.
- Denscombe, M. (2010) *The Good Research Guide for Small-scale Research Projects*, (4<sup>th</sup> Edition), UK, OU Press.
- Dempsey, J.V., Haynes, L.L., Lucassen, B.A. and Casey, M.S. (2002) Forty simple computer games and what they could mean to educators, *Simulation and Gaming*, Vol. 33, No. 2, pp.157-168.
- Department of Education and Science (1998) *Education Act*, Dublin 1, The Stationery Office.
- Department of Education and Science (1999) *Revised Primary Curriculum*, Dublin 1, The Stationery Office.
- Department of Education and Science (2008) *ICT in schools: Inspectorate Evaluation Studies*, Dublin 1, Evaluation Support and Research Unit.
- Department of Education and Skills (2010) *ICT Infrastructure Primary Grant Scheme*, Dublin 1 [Online] Available at [https://www.education.ie/en/Publications/Corporate-Reports/Annual-Report/des\\_annual\\_report\\_2010.pdf](https://www.education.ie/en/Publications/Corporate-Reports/Annual-Report/des_annual_report_2010.pdf) (Accessed 11 July 2011).
- Department of Education and Skills (2011) *Literacy and Numeracy for Learning and Life*, Dublin 1, The Stationery Office.
- Department of Education and Skills (2012) *School Self Evaluation Guidelines*, Dublin 1, The Stationery Office.
- Dewey, J. (1973, 1938) *Experience and Education*, New York, Simon & Schuster.
- Diamond, S. and Irwin, B. (2013) Using e-learning for student sustainability literacy: framework and review, *International Journal of Sustainability in Higher Education*, Vol. 14, No. 4, pp. 338-348.
- Duck, C. and Hutchinson, K. (2005) Animation Disenchanted Writers in Comber, B. and Kamler, B. (eds) (2005) *Turn-around Pedagogies*, Australia, Primary English Teaching Association.
- Elliott, J. (2004, 1993) in Somekh, B. (2006) *Action Research A Methodology for Change and Development*, UK, Open University Press.
- European Commission DG Communications Networks (2013) *Survey of Schools: ICT in Education Benchmarking Access, Use and Attitudes to Technology in Europe's Schools*, Content & Technology [Online] Available at <https://ec.europa.eu/digital-agenda/en/pillar-6-enhancing-digital-literacy-skills-and-inclusion> (Accessed 26 March 2014 ).
- Facer, K. (2011) *Learning Futures: Education, Technology and Social Change*, Oxon, Routledge.
- Fecho, B. (2011) in Thomson, P., Hall, C., Jones, K. and Sefton-Green, J. (2012) *The Signature Pedagogies Project: Final Report, Culture, Creativity and Education*.
- Freire, P. (1970) *Pedagogy of the Oppressed*, New York, Herder and Herder.
- Froebel, F. (1837) in Sawyer, K. (2004) Creative teaching: Collaborative Discussion as Disciplined Improvisation, *Educational Researcher*, Vol. 33, No. 2, pp. 12-20.
- Gabel-Dunk, G. (2008) Linking learning, creativity and identity-formation with 8 year-olds in Craft, A., Cremin, T. and Burnard, P. (eds) *Creative learning 3-11 and How we Document It*, UK, Trentham Books.
- Gee, J.P. (2000) New people in new worlds: networks, the new capitalism and schools in Cope, B. and Kalantzis, M. (eds) *Multiliteracies: Literacy Learning and the Design of Social Futures*, Oxon and New York, Routledge.
- Gee, J.P. (2007) *What video games have to teach us about learning and literacy*, London, Palgrave.
- Gilgun, J.F (2007) An Introduction to Deductive Qualitative Analysis [Online] Available at

<http://www.slideshare.net/JaneGilgun/an-introduction-to-deductive-qualitative-analysis> (Accessed 18 July 2014).

Grainger, T., Barnes, J. and Scoffham, S. (2006) *Creative Teaching for Tomorrow*, Research report for Creative Partnerships, UK.

Granić, A., Mifsud, C. & Cukušić, M. (2009) Design, Implementation and validation of a Europe-wide pedagogical framework for e-learning, *Computers and Education*, Vol. 53, pp.1052-1081.

Guba, E.G. and Lincoln, Y.S. (1981) in Schofield, J.W. (1990) Increasing the generalizability of qualitative research in Elliot, W., Eisner, E. and Peshkin, A. (eds.), *Qualitative Inquiry in Education: The Continuing Debate*, New York, Teachers College Press.

Habermas, J. (1974) cited in Keesee, J.P. (ed.) (1988) *Educational Research, Methodology and Measurement: An international handbook*, Oxford, Pergamon, pp. 177-90.

Hadjathanasiou, P. (2010) The e-learning readiness of Cyprus primary teachers ahead of dias system integration into Cyprus schools, *European Journal of Open, Distance and E-learning* [Online] Available at <http://www.eurodl.org/?article=363> (Accessed 29 June 2011).

Hellawell, D. (2006) Inside-out: analysis of the insider-outsider concept as a heuristic device to develop reflexivity in students doing qualitative research, *Teaching in higher Education*, Vol. 11, No. 4, pp. 483-494.

Hill, S. (2007) *Mapping Multiliteracies*, University of South Australia and South Australian Department of Education and Children's Services.

Hughes, M. and Greenhough, P. (2006) Boxes, bags and videotape: enhancing home-school communication through knowledge exchange activities, *Educational Review*, Vol. 58, No. 4, pp. 471-487.

Huijter, H. (2006) Refocusing multiliteracies for the net generation, *International Journal of Pedagogies and Learning*, Vol. 2, No.1, pp. 21-33.

Irish National Teachers Organisation (2013) Sustaining a network of small schools, *In Touch*, Issue 137, pp.36-37.

Irish Film Institute (2012) *New Directions in Film & Media Literacy*, The Arts Council, Irish Film Board.

Ito, M., Baumer, S., Bittanti, M., Boyd, D., Cody, R., Herr-Stephenson, B., Horst, H.A., Lange, P.G., Mahendran, D., Martinez, K.Z., Pascoe, C.J., Perkel, D., Robinson, L., Sims, C. & Tripp, L. (2010) *Hanging Out, Messing Around and Geeking Out*, Massachusetts Institute of Technology Press.

Jeffrey, B.(ed) (2006) *Creative Learning Practices: European Experiences*, London, The Tufnell Press.

Jeffrey, B. and Craft, A. (2004) Teaching creatively and teaching for creativity: distinctions, and relationships, *Educational Studies*, Vol. 30, No.1, p. 77-87.

Jeffrey, B. (2008) Creative learning in Europe: making use of global discourses in Craft, A., Cremin, T. and Burnard, P. (eds) *Creative learning 3-11 and How we Document It*, UK, Trentham Books.

Jewitt, C. (2005) Multimodality, "Reading, and "Writing" for the 21<sup>st</sup> Century, *Discourse: studies in the cultural politics of education*, Vol. 26, No. 3, pp. 315-331.

Jewitt, C. (2008) Multimodality and Literacy in School Classrooms, *Review of research in Education*, Vol. 32, pp. 241-263.

Kalantzis, M. and Cope, B. (2000) A Multiliteracies pedagogy: a pedagogical supplement in Cope, B and

Kalantzis, M. (eds) (2000) *Multiliteracies Literacy Learning and the Design of Social Futures*, Oxon and New York, Routledge.

- Kamler, B. and Comber, B. (2005) Turn-around pedagogies: Improving the Education of at-risk Students, *Improving Schools*, Sage, [Online] Available at <http://imp.sagepub.com/content/8/2/121.refs.html> (Accessed 2 April 2013).
- Karpinnen, P. (2005) in Toyn, M. (2008) Capturing creativity using digital video, *Practitioner Research in Higher Education*, Vol. 2, No. 1, pp. 29-35.
- Kellett, M., Forrest, R., Dent, N. and Ward, S. (2004) 'Just Teach Us the Skills Please, We'll do the rest': Empowering Ten-year olds as Active Researchers, *Children and Society*, Vol. 18, pp. 329-343.
- Kemmis, S. (1988) Action Research in Keeves, J.P. (ed.) (1988) *Educational Research, Methodology and Measurement: An international handbook*, Oxford, Pergamon, pp. 177-90.
- King, A. (1993) From Sage on the Stage to Guide on the Side, *College Teaching*, Vol. 41, No.1, pp. 30-35.
- Koshy, V. (2010) *Action Research for Improving Educational Practice*, (2<sup>nd</sup> edition), London, Sage Publications Ltd.
- Kress, G. (2000) Multimodality in Cope, B. and Kalantzis, M. (eds) *Multiliteracies Literacy Learning and the Design of Social Futures*, Oxon and New York, Routledge.
- Kress, G. and Van Leeuwen, T. (2010) *Multimodal Discourse: The modes and media of contemporary communication*, London and New York, Bloomsbury Academic.
- Kwek, D, Albright, J. and Kramer-Dahl, A. (2007) Building teachers' creative capabilities in Singapore's English classrooms: a way of contesting pedagogical instrumentality, *Literacy*, Vol. 41, No. 2, pp. 66-73.
- Lave, J. and Wenger, E. (1991a) *Situated Learning: Legitimate Peripheral Participation*, Cambridge University Press.
- Lave, J. and Wenger, E. (1991b) Learning and Pedagogies in Communities of Practice in Leach, J. and Moon, B. (eds.) (1999) *Learners and Pedagogy*, London, Sage publications.
- Lee, L and O'Rourke, M. (2006) Information and communication technologies: transforming views of literacies in early childhood settings, *Early Years*, Vol.26, No. 1, pp. 49-62.
- Lomax, P. (1994) "Standards, criteria and the problematic of action research within an award bearing course", *Educational Action Research*, Vol. 2, No.1, pp. 113-126.
- Lopez-Gopar, M.E. (2007) Beyond the Alienating alphabetic Literacy: Multiliteracies in Indigenous Education In Mexico, *Diaspora, Indigenous & Minority Education*, Vol. 3, pp. 159-174.
- Lotherington, H. (2007) "Rewriting traditional tales as multilingual narratives at elementary school: Problems and progress", *Canadian Journal of Applied Linguistics/Revue Canadienne de Linguistique Appliquée*, Vol. 10, No. 2, pp. 241-256.
- Luke, C. (2000) in Cope, B. and Kalantzis, M. (eds) *Multiliteracies: Literacy Learning and the Design of Social Futures*, Oxon and New York, Routledge.
- Luke, C. (2003) Pedagogy, Connectivity, Multimodality and Interdisciplinarity, *International Reading Association, Reading Research Quarterly*, Vol. 38, No. 3, pp. 397-403.
- Luke, A. and Freebody, A. (1999) *Further Notes on the Four Resources Model*, [Online] Available at <http://www.readingonline.org/research/lukefreebody.html> (Accessed 28 June 2011).
- Lundy, L., McEvoy, L. and Byrne, B. (2011) Working with Young Children as Co-researchers: An Approach Informed by the United Nations Convention on the Rights of the Child, *Early Education and Development*, Vol. 22, No.5, pp. 714-736.

- McNiff, J. and Whitehead, J. (2011) *All You Need To Know About Action Research*, (2<sup>nd</sup> Edition), London, Sage Publications Ltd.
- Malone, K. (2006a) *Research on, with and by Children*, UNESCO Asia-Pacific Director
- Growing Up In Cities project. Faculty of Education, University of Wollongong, NSW, Australia.
- Malone, K. (2006b) *Research on, with and by children*, Keynote address, Researching children, an Open University conference on research with and by children, University of East Anglia, Norwich, UK.
- Maney, B. (2005) Re-positioning the Reluctant High-school Reader in Comber, B. and Kamler, B. (eds) (2005) *Turn-around Pedagogies*, Australia, Primary English Teaching Association.
- Marsh, J. (2005) (ed) *Popular Culture, New Media and Digital Literacy in Early Childhood*, Routledge.
- Marsh, J. and Millard, E. (2000) *Literacy and popular Culture*, London, Paul Chapman Publishing Ltd.
- Mayes, T. and de Freitas, S. (2004) *Stage 2: Review of e-learning theories, frameworks and models*, JISC e-Learning Models Desk Study.
- Millard, E. (2003) Towards a Literacy of Fusion: New Times, Teaching and learning?, *Literacy and Language*, April 2003.
- Miller, D.J, and Robertson, D.P. (2009) Using a games console in the primary classroom: effects of 'Brain Training' programme on computation and self-esteem, *British Journal of Educational Technology*, Vol. 41, No. 2, pp.201.
- Mills, K. (2009) Multiliteracies: Interrogating Competing Discourses, *Language and Education: An International Journal*, Vol. 23, No. 2, pp. 103-116.
- Mills, K. (2011a) *The Multiliteracies Classroom*, New Perspectives on Language and Education, Bristol and New York, Multilingual Matters.
- Mills, K. (2011b) Kineikonic texts in the literacy classroom, *Australian Journal of Language and Literacy*, Vol. 34, No. 1, pp. 24-27.
- Moll, L.C., Amanti, C., Neff, D. and Gonzalez, N. (1992) in Kamler, B. and Comber, B. (2005) Turn-around pedagogies: Improving the Education of at-risk Students, *Improving Schools*, Sage, [Online] Available at <http://imp.sagepub.com/content/8/2/121.refs.html> (Accessed 2 April 2013 ).
- Montessori, M. (1907) in Sawyer, K. (2004) Creative teaching: Collaborative Discussion as Disciplined Improvisation, *Educational*, Vol. 33, No. 2, pp. 12-20.
- National Advisory Committee on Creative and Cultural Education (NACCCE) (1999) *All our Futures: creativity, Culture and Education*, London, Department for Education and Employment.
- National Council for Curriculum and Assessment (2004) *Information and communication technologies in the primary school curriculum: guidelines for teachers*, Dublin, NCCA.
- National Council for Curriculum and Assessment (2007a) *ICT framework: a structured approach to ICT in Curriculum and Assessment Revised Framework*, Dublin, NCCA.
- National Council for Curriculum and Assessment (2007b) *Assessment in the Primary School Curriculum: Guidelines for school*. Dublin, NCCA.
- National Centre for Technology In Education (2010) Planning and Implementing e-Learning in your School, *Handbook for Principals and ICT Co-ordinating Teachers*, Dublin City University.
- New London Group (2000, 1996) in Cope, B. and Kalantzis, M. (eds) (2000) in *Multiliteracies: Literacy Learning and the Design of Social Futures*, Oxon and New York, Routledge.



- Newman, J. M. (1991) *Interwoven Conversations: Learning and Teaching through Critical Reflection*, Portsmouth, NH, Heinemann.
- Newfield, D. and Stein, P. (2000) The Multiliteracies Project: South African Teachers Respond in Cope, B. and Kalantzis, M. (eds) (2000) *Multiliteracies: Literacy Learning and the Design of Social Futures*, Oxon and New York, Routledge.
- Nixon, H. (2007) Expanding the Semiotic Repertoire: Environmental Communications in the Primary School, *Australian Journal of Language and Literacy*, Vol. 30, No. 2, pp. 2-7.
- OECD (1991) cited in Sugrue, C. (2006) Structure and Agency in the construction of creative teaching and learning: A view from the margins in Jeffrey, B. (ed) *Creative Learning Practices: European Experiences*, London, The Tufnell Press.
- O'Neill, B. and Dinh, T. (2012) Digital Literacy, Digital Opportunities, *Digital Childhoods Working Paper Series No. 2 (May 2012)* [Online] Available at <http://www.eukidsonline.net> (Accessed 11 September 2012).
- O'Rourke, M. (2005) Multiliteracies for 21<sup>st</sup> Century Schools, *ANSN Snapshot*, No. 2.
- Orland-Barak, L. and Yinon, H. (2005) Sometimes a novice and sometimes an expert: mentors' professional expertise as revealed through their stories of critical incidents, *Oxford review of education*, Vol. 31, No. 4, pp. 557-578.
- Papert, S. (1993) *The Children's Machine: Rethinking School in the Age of the Computer*, New York Basic Books Inc.
- Pahl, K. (2007) Creativity in events and practices: a lens for understanding children's multimodal texts, *Literacy*, Vol. 41, No. 2, pp. 81-87.
- Pahl, K. and Rowsell, J. (2005) *Literacy and Education Understanding the New Literacy Studies in the Classroom*, London, Sage Publications.
- Peterson, C. (2005) Teacher-student Networks: Using technology-infused curriculum to turn around students at risk in Comber, B. and Kamler, B. (eds) (2005) *Turn-around Pedagogies*, Australia, Primary English Teaching Association.
- Prensky, M. (2001a) *Digital game-based learning*, New York, McGraw-Hill.
- Probert, E. (2009) Information literacy skills: Teacher understandings and practice, *Computers and Education*, Vol. 53, pp. 24-33.
- Reid, M. (2002) *Evaluation report of the BECTA Digital Video Pilot Project*, Coventry, BECTA, [Online] Available at [http://www.nsead.org/ict/resources/downloads/Research15\\_DigitalVideo.pdf](http://www.nsead.org/ict/resources/downloads/Research15_DigitalVideo.pdf) (Accessed 8 April 2013).
- Richardson, L. (2000) New writing practices in qualitative research, *Sociology of Sport Journal*, Vol. 17, pp. 5-20.
- Rossiter, J. (2002) in Abrami, P.C., Bernard, R.M., Wade, C.A., Schmid, R.F., Borokhovski, E., Tamim, R., Surkes, M., Lowerison, G., Zhang, D., Nicolaidou, I., Newman, S., Wozney, L. and Peretiatkiewicz, P. (2006) *A Review of E-learning in Canada: A Rough Sketch of the Evidence, Gaps and Promising Directions*, Canadian Council for Learning, Montreal, Quebec.
- Sawyer, K. (2004) Creative teaching: Collaborative Discussion as Disciplined Improvisation, *Educational Researcher*, Vol. 33, No. 2, pp. 12-20.
- Sawyer, K. (2011) A call to action: The challenges of creative teaching and learning, *Teachers College Record*.

- Schofield, J.W. (1990) Increasing the generalizability of qualitative research in Hammersley, M. (ed) (2007) *Educational Research and Evidence-based Practice*, London, Sage Publications.
- Schon, D. (1995, 1983) cited in McNiff, J. and Whitehead, J. (2011) *All You Need To Know About Action Research*, (2<sup>nd</sup> Edition), London, Sage Publications Ltd.
- Sefton-Green, J. (2011) Judgement, authority and legitimacy: evaluating creative learning in Sefton-Green, J., Thomson, P., Jones, K. and Bresler, L. (eds) *The Routledge International handbook of Creative Learning*, Oxon and New York, Routledge.
- Selwyn, N., Boraschi, D. and Ozkula, S.M. (2009) Drawing digital pictures: an investigation of primary pupil's representations of ICT and schools, *British Educational Research Journal*, Vol. 35, No. 6, pp. 909-928.
- Smith, F. (1984, 1988) in Newman, J. M. (1991) *Interwoven Conversations: Learning and Teaching through Critical Reflection*, Portsmouth NH, Heinemann.
- Somekh, B. (2000) New Technology and Learning: Policy and Practice in the UK, 1980-2010, *Education and Information Technologies*, Vol. 5, No. 1, pp.19-37.
- Somekh, B. (2006) *Action Research A Methodology for Change and Development*, UK, Open University Press.
- Spendlove, D. and Wyse, D. (2008) Creative Learning: Definitions and Barriers in Craft, A., Cremin, T. and Burnard, P. (eds) *Creative learning 3-11 and How we Document It*, UK, Trentham Books.
- Sugrue, C. (2006a) Structure and Agency in the construction of creative teaching and learning: A view from the margins in Jeffrey, B. (2006) (ed.) *Creative Learning Practices: European Experiences*, London, The Tufnell Press.
- Sugrue, C. (2006b) cited in Jeffrey, B. (2008) Creative learning in Europe: making use of global discourses in Craft, A., Cremin, T. and Burnard, P. (eds) *Creative learning 3-11 and How we Document It*, UK, Trentham Books.
- Tapscott, D. (1998) in Craft, A. (2011) *Creativity and Education Futures- learning in a digital age*, UK, Trentham Books.
- Thomson, P.L. (2002) 'Virtual school bags' Socio-economically Disadvantaged Students and the Development of Literacies in School', *Department of Education Training and employment University of South Australia*, Vol. 1, pp.41-42.
- Thomson, P. (2008) *Doing Visual research with children and Young People*, Oxon and New York, Routledge.
- Thomson, P. and Gunter, H. (2007) The methodology of Students-as-Researchers: valuing and using experience and expertise to develop methods, *Discourse: studies in the cultural politics of education*, Vol. 28, No. 3, pp. 327-342.
- Thomson, P., Hall, C., Jones, K. and Sefton-Green, J. (2012) *The Signature Pedagogies Project: Final Report*, Newcastle, Creativity, Culture and Education.
- Torrance, E.P. (1965) in Sawyer, K. (2011) A call to action: The challenges of creative teaching and learning, *Teachers College Record*.
- Toyn, M. (2008) Capturing creativity using digital video, *Practitioner Research in Higher Education*, Vol. 2, No. 1, pp. 29-35.
- Tripp, D. (1993) *Critical Incidents in Teaching: Developing Professional Judgement*, Oxon and New York, Routledge Falmer.

- Twining, P. (2008, 2004) Framing IT to Enhance Educational Impact on a School-wide Basis in Voogt, J. and Knezek, G. (eds) *International Handbook of Information Technology in Primary and Secondary Education*, pp. 555-577.
- Twining, P. (2009) Educational information technology research methodology: looking back and moving forward in McDougall, A., Murnane, J., Jones, A. and Reynolds, N. (eds) *Researching IT in Education: Theory, Practice and Future*, London, Routledge. pp.151-168.
- UNESCO (2004) in Anderson, J. (2005) IT, e-learning and teacher development, *International Education Journal*, ERC2004, Special issue 5, pp. 1-14.
- Unsworth, L. (2001) *Teaching multiliteracies across the curriculum: Changing contexts of text and image in classroom practice*, Buckingham, UK, Open University Press.
- Van Leeuwen, T. and Jewitt, C. (2001) *Handbook of Visual Analysis*, London, Sage Publications.
- Vygotsky, L.S. (1978) in Cope, B. and Kalantzis, M. (eds) *Multiliteracies: Literacy Learning and the Design of Social Futures*, Oxon and New York, Routledge.
- Wahlstedt, A., Pekkola, S and Niemelä, M. (2008) From e-learning space to e-learning place, *British Journal of Educational Technology*, Vol. 39, No. 6, pp.1020-1030.
- Walsh, C.S. (2007) Creativity as capital in the literacy classroom: Youth as multimodal designers, *Literacy* Vol. 41, No. 2, pp. 79-85.
- Walsh, C.S. (2009) The multi-modal redesign of school texts, *Journal of Research in Reading*, Vol. 32, No. 1, pp. 126-136.
- Walsh, C.S. and Kamler, B. (2013) Teacher Research on Literacy: Turning Around to Students and Technology pp. 499-513 in Hall, K., Cremin, T., Comber, B and Moll, L.(eds) (2013) *International Handbook of Research in Childrens' Literacy, Learning and Culture*, London, Wiley-Blackwell.
- Warrican, S.J. (2006) Action Research: a viable option for effecting change, *Journal of Curriculum Studies*, Vol. 38, No. 1, pp. 1-14.
- Watts, R. (2007) Harnessing the power of film in the primary classroom, *Literacy*. Vol. 4, No. 2, pp. 102-109.
- Wenger, E. (1998) *Communities of Practice: Learning, Meanings and Identity*, Cambridge University Press.
- Woods, P. (1990) *Teacher skills and strategies*, London, Falmer.
- Zhang, D. (2006) in Abrami, P.C., Bernard, R.M., Wade, C.A., Schmid, R.F., Borokhovski, E., Tamim, R., Surkes, M., Lowerison, G., Zhang, D., Nicolaidou, I., Newman, S., Wozney, L. and Peretiatkiewicz, P. (2006) *A Review of E-learning in Canada: A Rough Sketch of the Evidence, Gaps and Promising Directions*, Canadian Council for Learning, Montreal.

**Appendix 1                    (a) Timetable of Data collection mini-lessons for researchers**

<b>Lesson 1</b> Jan 14 2013	What is research? Who is it for? Decide audience. Choose research aspect, 'process' or 'perspective'.		
<b>Lesson 2</b> 15/1/2013	Basic data collection methods...survey, interview, photo, field-notes, video...Some have previously been covered in Maths class.		
<b>*Lesson 3</b> 16/1/2013 Team 1	Devise a research question	12/4/2013 Team 2	Devise a research question
<b>Lesson4</b> Jan 18 2013	Each group discusses and selects method suited to their question. Team 1 begin 22/1/2013. Team 2 begin 19/4/2013.		
<b>Lesson 5</b> Jan 28 2013	Storing data and ethics...anonymity, consent (already received by me). Improved their repertoire of ICT skills by transferring data to dedicated flash drive and deleting all files.		

\*Time difference due to different aspects chosen to research

**(b) Timetable of mini-lessons on analysis for researchers**

<b>Lesson1</b> 8/4/2013	Research as a story, data helps to tell it.
<b>Lesson2</b> 15/4/2013	Team 1: How to analyse photographs using inductive themes i.e. selecting themes/headings and photos that best tell the story
<b>Lesson3</b> 29/4/2013	Team 2: How to analyse interview responses using content analysis
<b>Lesson 4</b> 2013	Answering the research question, using summary conclusion
<b>Lesson 5</b> April 2013	Research team 2 how to use excel to chart data responses.
<b>Lesson 6</b> May 2013	Presentation methods Photostory3 and PowerPoint.

## **Appendix 2     Consent form for child participants as researchers**

**Title of study:** e-Learning in Rural Primary Schools: Strengths, Perceptions and Possibilities

**Duration and date of proposed study:** January-May 2013

**Researcher:** Anne Moriarty

**School:** xxxx

**Class:** 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>

As part of my graduate research programme at the Open University under the supervision of xxxx and xxxx in the Department of Education, I am inviting you to take part in a classroom study as a requirement of my studies. This letter describes this study and what activities to expect if you agree to take part.

**Purpose:** The purpose of this study is to explore whether using e-learning and digital technologies in our multi-age classroom can provide more opportunities for you to be creative and improve our teaching and learning. To better understand this, we will produce and design short animated films. Together we will explore if e-learning has any influence on both my own teaching and your literacy practices (your reading, writing, listening, speaking, viewing and designing). The study will explore if e-learning (using various technologies) benefits your literacy practices in other parts of the curriculum such as science, geography, music or Irish. The research will be carried out with pupils from my 1<sup>st</sup> 2<sup>nd</sup> and 3<sup>rd</sup> classes.

**Procedures/tasks:** If you agree to take part in this research you will take part as a researcher (with me) in a project that consists of you video-recording and/or photographing both myself and pupils in your class working in groups on history lessons/projects to collaboratively produce and design animated films. The class will be using digital technologies such as cameras, netbooks, lap tops and recorders to animate a history project. You will be asked to record the way we do this collaboratively as a group, using digital technologies such as camera, voice-recorders, net books and Photostory software. You will also be

invited to interview your class mates and teacher (me) about their experience of using technologies for the history project and their work in other subjects. . In some cases we will work together to analyse the data (interviews and films) to better understand the extent to which e-learning helps us be creative and/or improves our literacy practices and my own teaching and learning.

- You are being asked to participate in a research study. This study is being undertaken to investigate our multi-age classroom to better understand how technologies can be used to improve the literacy teaching and learning.
- You should ask any questions you have before making up your mind whether you want to participate or not in this study. You can think about it and discuss it with your family and friends before you decide.
- It is ok to say 'no' if you don't want to be in the study. Deciding not to participate will not affect your marks or your relationship with me as your teacher. If you say 'yes', you can change your mind and quit or withdraw from the study at any time up to the point of data analysis without getting in trouble or facing any consequences whatsoever.
- This study is about using digital technologies such as cameras, netbooks, recorders and laptops in the classroom to see if or how technology could improve learning in history and other school subjects. Another aim is to better understand what you think about using technology in school to complete projects and explain what you have learned in new ways that are not reports, tests or more traditional print-based documents (like quizzes, worksheets and essays).
- All data from the study including transcripts and video-recordings will be stored on a secure password protected computer in my own home which only I have access to. This means that nobody, except me, will have access to these video-recordings. All data will be made anonymous and unidentifiable; that means it will not have your name on it.
- If you say 'yes' you will be working in a group, with pupils from your class, recording work on a history project where you will learn how to research project work in the classroom, how to interview other people and how to analyse and present the information that you find out. I will

provide you with some exciting training as to what researchers do and why e.g. to answer research questions.

- For questions about the study you may talk to me, Ms Moriarty at any time or you can contact my primary supervisor xxxx (his contact details are below).

I have read (or someone has read to me) this form. I have had a chance to ask questions before making up my mind.

**Please circle one:**

I want to participate in this research study and understand I can withdraw at any time if I change my mind, up to the point of data analysis.

I do not want to participate in this research study.

**Pupil signature:**

**Parent signature:**

**Date:**

**Name of researcher obtaining consent:** Anne Moriarty

**Signature:**

**Contact details for Supervisor:**

**E-mail:**

**Phone:**

**Appendix 3                      Parental consent form for researchers**

Dear parents,

As part of my graduate research programme at the Open University under the supervision of xxxx and xxxx in the Department of Education, I am inviting your child to take part in a classroom study as part of my studies. This study has the approval of the Open University’s Human Research Ethics Committee. I am seeking your parental permission for your child \_\_\_\_\_ to participate. This letter contains information about this study and what to expect if you permit your child to take part. Your child’s participation is completely voluntary.

**Title of study:** e-Learning in Rural Primary Schools: Strengths, Perceptions and Possibilities

**Duration and date of proposed study:** January-May 2013

**Researcher:** Anne Moriarty

**School:**

**Class:** 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>

**Purpose:** The purpose of my study is to explore whether using e-learning and digital technologies in our multi-age classroom can provide more opportunities for pupils to be creative and whether or not it helps me to improve my teaching and our learning. To better understand this, we will produce and design short animated films. Together we will explore if e-learning has any influence on both my own teaching and my pupil’s literacy practices (their reading, writing, listening, speaking, viewing and designing). The study will explore if e-learning (using various technologies) benefits pupil’s literacy practices in other parts of the curriculum such as science, geography, music or Irish. The research will be carried out with the pupils from my 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> classes.

**Procedures/tasks:** If you agree to allow your child to take part in this research he/she will take part as a researcher (with me) in a project that consists of



him/her video-recording and/or photographing both myself and pupils in his/her class working in groups on history lessons/projects to collaboratively produce and design animated films. The class will be using digital technologies such as cameras, netbooks, lap tops and recorders to animate a history project. He/she will be asked to record the way we do this collaboratively as a group, using digital technologies such as camera, voice-recorders, net books and Photostory software. He/she will also be invited to interview his/her class mates and teacher about their experience of using technologies for the history project and their work in other subjects.

**Time-frame:** The study will take place for short durations of 30 minutes over a number of weeks, beginning in January 2013 and ending by May 2013.

**Risks/benefits:** Your child will have the opportunity to work in a group, with pupils from his/her class, recording work on a history project where he/she will learn how to research project work in the classroom, how to interview other people and how to analyse and present the information that they find out. I will provide him/her with some exciting training as to what researchers do and why e.g. to answer research questions.

**Data/Storage:** Your child and the school will be given pseudonyms (fake names) to protect anonymity during note-taking, data analysis and the final write-up. I will provide participants (pupils) or you with a summary of findings, should they or you be interested, at the end of the study (October 2014). The research results will be published in a thesis and possibly in a future journal article. Please contact me at the school or my supervisor if you have any questions regarding your child's participation in this study.

Thank you in advance for your co-operation.

Anne Moriarty

Contact:

Contact details for Supervisor:

E-mail:

Phone:

**Signing the parental permission form**

I have read this form and I am aware that I am being asked to provide permission for my child to take part in a research study. I voluntarily agree to permit my child to participate in this study.

**Name:**

**Relationship to the pupil:**

**Date:**

**Name of researcher obtaining consent:** Anne Moriarty

**Signature:**

## **Appendix 4                      Consent form for child participant**

**Title of study:** e-Learning in Rural Primary Schools: Strengths, Perceptions and Possibilities

**Duration and date of proposed study:** January-May 2013

**Researcher:** Anne Moriarty

**School:** xxxx

**Class:** 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>

As part of my graduate research programme at the Open University under the supervision of xxxx and xxxx in the Department of Education, I am inviting you to take part in a classroom study as a requirement of my studies. This letter describes this study and what activities to expect if you agree to take part.

**Purpose:** The purpose of my study is to explore whether using e-learning and digital technologies in our multi-age classroom can provide more opportunities for you to be creative and whether or not it helps me to improve my teaching and our learning. To better understand this, we will produce and design short animated films. Together we will explore if e-learning has any influence on both my own teaching and your literacy practices (your reading, writing, listening, speaking, viewing and designing). The study will explore if e-learning (using various techniques) benefits your literacy practices in other parts of the curriculum such as science, geography, music or Irish. The research will be carried out with pupils from my 1<sup>st</sup> 2<sup>nd</sup> and 3<sup>rd</sup> classes.

**Procedures/tasks:** If you agree to take part in this research you will take part in a project that consists of video-recording both myself and my pupils (you) working in groups on history lessons/projects to collaboratively produce and design animation films. The video-recording will document your use of digital technologies such as cameras, netbooks, laptops and recorders to animate a history project. You will also be invited to take part in audio-recorded

interviews with me about your experience of using technologies for the history project and your work in other subjects. I will also invite some of you to be co-researchers with me. This will involve us analysing the video recordings, the animated films and some of the data from the interviews together.

- You are being asked to participate in a research study. This study is being undertaken to investigate our multi-age classroom to better understand how technologies can be used to improve the literacy teaching and learning.
- You should ask any questions you have before making up your mind whether you want to participate or not in this study. You can think about it and discuss it with your family and friends before you decide.
- It is ok to say 'no' if you don't want to be in the study. Deciding not to participate will not affect your marks or your relationship with me as your teacher. If you say 'yes', you can change your mind and quit or withdraw from the study at any time up to the point of data analysis without getting in trouble or facing any consequences whatsoever.
- This study is about using digital technologies such as cameras, netbooks, recorders and laptops in the classroom to see if or how technology could improve learning in history and other school subjects. Another aim is to better understand what you think about using technology in school to complete projects and explain what you have learned in new ways that are not reports, tests or more traditional print-based documents (like quizzes, worksheets and essays).
- All data from the study including transcripts and video-recordings will be stored on a secure password protected computer in my own home which only I have access to. This means that nobody, except me, will have access to these video-recordings. All data will be made anonymous and unidentifiable; that means it will not have your name on it.
- If you say 'yes' you will be working in a group with your class on a history project where you will learn how to make short animated films, based on a history topic from the curriculum.
- If you have questions about the study you may talk to me, Ms Moriarty at any time or you can contact my primary supervisor xxxx (his contact details are below) to ask questions.

I have read this form (or someone has read it to me). The research study has been explained to me. I have also had a chance to ask questions before making up my mind.

**Please circle one:**

I want to participate in this research study and understand I can withdraw at any time if I change my mind, up to the point of data analysis.

I do not want to participate in this research study.

**Pupil signature:**

**Parent signature:**

**Date:**

**Name of researcher obtaining consent:** Anne Moriarty

**Signature:**

**Contact details for Supervisor:**

**E-mail:**

**Phone:**

**Appendix 5**                      **Parental consent form**

Dear parents,

As part of my graduate research programme at the Open University under the supervision of xxxx and xxxx in the Department of Education, I am inviting your child to take part in a classroom study as part of my studies. This study has the approval of the Open University’s Human Research Ethics Committee. I am seeking your parental permission for your child \_\_\_\_\_ to participate. This letter contains information about this study and what to expect if you permit your child to take part. Your child’s participation is completely voluntary.

**Title of study:** e-Learning in Rural Primary Schools: Strengths, Perceptions and Possibilities

**Duration and date of proposed study:** January-May 2013

**Researcher:** Anne Moriarty

**School:** xxxx

**Class:** 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>

**Purpose:** The purpose of my study is to explore whether using e-learning and digital technologies in our multi-age classroom can provide more opportunities for pupils to be creative and whether or not it helps me to improve my teaching and our learning. To better understand this, we will produce and design short animated films. Together we will explore if e-learning has any influence on both my own teaching and my pupil’s literacy practices (their reading, writing, listening, speaking, viewing and designing). The study will explore if e-learning (using various technologies) benefits pupil’s literacy practices in other parts of the curriculum such as science, geography, music or Irish. The research will be carried out with the pupils from my 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> classes.

**Procedures/tasks:** If you agree to allow your child to take part in this research he/she will take part in a project that consists of video-recording both myself and my pupils (your child) working in groups on history lessons/projects to collaboratively produce and design animated films. The video-recording will document pupils' use of digital technologies such as cameras, netbooks, lap tops and recorders to animate a history project. He/she will also be invited to take part in audio-recorded individual and group interviews (4/5 pupils) with me about his/her experience of using these technologies for the history project and his/her work in other subjects.

**Time-frame:** The study will take place for short durations of 30 minutes over a number of weeks, beginning in January 2013 and ending by May 2013.

**Risks/benefits:** Your child will have the opportunity to think about and express his/her experience of learning and using technologies to represent what he/she has learned from the History curriculum, as well as his/her overall experiences of participating in new literacy practices. If at any time he/she does not want to participate or answer a question he/she can opt out or withdraw from the study at any time, up to the point of data analysis.

**Data/Storage:** Your child and the school will be given pseudonyms (fake names) to protect anonymity during note-taking, data analysis and the final write-up. All video data will be stored on a dedicated, secure password protected computer, accessible only by me at my home. That means nobody except me, will have access to these video-recordings. This data will be anonymous and unidentifiable. All data will be destroyed not later than 12 months after completion of the study in October 2014.

I will provide participants (pupils) or you with a summary of findings, should they or you be interested, at the end of the study (October 2014). The research results will be published in a thesis and possibly in a future journal article. Please contact me at the school or my supervisor if you have any questions regarding your child's participation in this study.

Thank you in advance for your co-operation.

Anne Moriarty

Contact:

Contact details for Supervisor:

E-mail:

Phone:

**Signing the parental permission form**

I have read this form and I am aware that I am being asked to provide permission for my child to take part in a research study. I voluntarily agree to permit my child to participate in this study.

**Name:**

**Relationship to the pupil:**

**Date:**

**Name of researcher obtaining consent:** Anne Moriarty

**Signature:**



## **Appendix 6                      Consent form for the Board of Management**

**Title of study:** e-learning in Rural primary Schools: Strengths, Perceptions and Possibilities

**Duration and date of proposed study:** January-May 2013

**Researcher:** Anne Moriarty

**Classes:** 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>

**School:** xxxx

As part of my studies for the Ed.D, Doctorate in Education at the Open University, Milton Keynes, under the supervision of xxxx and xxxx in the Department of Education, I am seeking the permission of the Board to undertake data collection in xxxx N.S. in 1<sup>st</sup> to 3<sup>rd</sup> classes. This research has the approval of the Open University's Human Research Ethics Committee.

**Purpose:** The purpose of the research is to explore whether using e-learning and digital technologies in my multi-age classroom can provide more opportunities to foster creativity and improve literacy teaching and learning. To better understand this we will produce and design short animated films in our history class. Together we will explore if e-learning has any influence on both my own teaching practices and my pupil's literacy practices (their reading, writing, listening, speaking, viewing, designing). The study will explore if e-learning benefits pupils' literacy practices in other parts of the curriculum such as science, geography, music or Irish. The research will be carried out with the 1<sup>st</sup> 2<sup>nd</sup> and 3<sup>rd</sup> classes.

**Procedures/tasks:** As part of this research I aim to carry out a classroom study beginning in January 2013. If you consent to me carrying out this study, it will consist of having access to standardised literacy test results for anonymous profiling of the school's pupils; video-recording both myself and my pupils in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> classes working in groups on history lessons/projects to produce

and design animated films; pupils in 2<sup>nd</sup> and 3<sup>rd</sup> classes participating as co-researchers; my analysis of the animated films; pupils from 3<sup>rd</sup> class taking part as co-researchers with me, video-recording and photographing myself and my pupils working collaboratively to produce and design animated films; interviewing fellow pupils; analysing and presenting the information they find out. Pupils will be using digital technologies such as cameras, netbooks, lap tops and recorders to animate a history project. They will also be invited to take part in audio-recorded interviews with me about their experience of using technologies for the history project and their work in other subjects. Consent from the child and one of the child's parents is required for participation in the study.

**Data/Storage:** All data will be stored on a secure laptop, used for the purpose of this research, accessible only by myself, for analysis of findings. All data will be anonymous and unidentifiable. All data will be destroyed not later than 12 months after completion of the study in October 2014. Participation is entirely voluntary and participants can withdraw from the study up to the point of data analysis without facing any consequences. I will provide participants with a summary of findings, should they be interested, at the end of the study (October 2014). The results will be published in a thesis and possibly in a future journal article.

Thank you in advance for your co-operation.

**Researcher:** Anne Moriarty

**Signature:**

I have read this form and I am aware that the Board of Management is being asked to provide approval for a research study to be carried out in xxxx N.S. I voluntarily agree, on behalf of the board, to permit Anne Moriarty to conduct this study.

**Chairperson:**

**Signature:**

**Date:**

## **Appendix 7                      Individual Interview schedule**

### **Literacy practices:**

1. How was this project different than other history projects you've done?
2. Which did you prefer? Why?
3. What was the hardest part of the project?
4. What was the best part of the project? Compare it with last year (2<sup>nd</sup> and 3<sup>rd</sup> only)
5. How did you find doing history using technology?
6. Can you see yourself using animation in a project again?

### **Collaborative/ Group work:**

7. Was it easy/hard working with 1<sup>st</sup>/2<sup>nd</sup>/3<sup>rd</sup> all in one group?
8. What were you best at? What 'job' did you do? How did you decide?
9. What did you think about working in a group and making decisions based on what the group decided and not what the teacher decided?

### **Out of school worlds:**

10. Do you have technology (internet, i-pod, computer, camera...) at home?
11. Are you allowed to use it? What kinds of things do you do with it?
12. Who would you like to see (view) this film?

### **Group session (unstructured) 5 groups**

Group spontaneously talk about the project experience with no structured questions from the teacher. Look for reaction to the film, what they included and why and responses to learning.

**Appendix 8 Reflective self-assessment for 3<sup>rd</sup> class**

Name:

Date:

1. What have you been learning about in history?

---

---

2. List three things you learned about this topic.

---

---

3. Were you a good team member?

---

4. Give a reason for your answer.

---

---

5. What could your team do better next time?

---

---

Teacher comments:

--

**Appendix 9 Sample of pupil researcher notes**

Feb 23rd Tra 1 filming

Then we discussed how

they want their characters to look.

Team 1 asked if we could see a  
slit in the door so the characters could  
see each other.

Then we asked "Do you want to  
see the WHOLE group find the scene.  
They are going onto their 2nd scene today.  
They are going to try and find ideas.

of how they could make the parts, But the group  
discussing all the ideas.

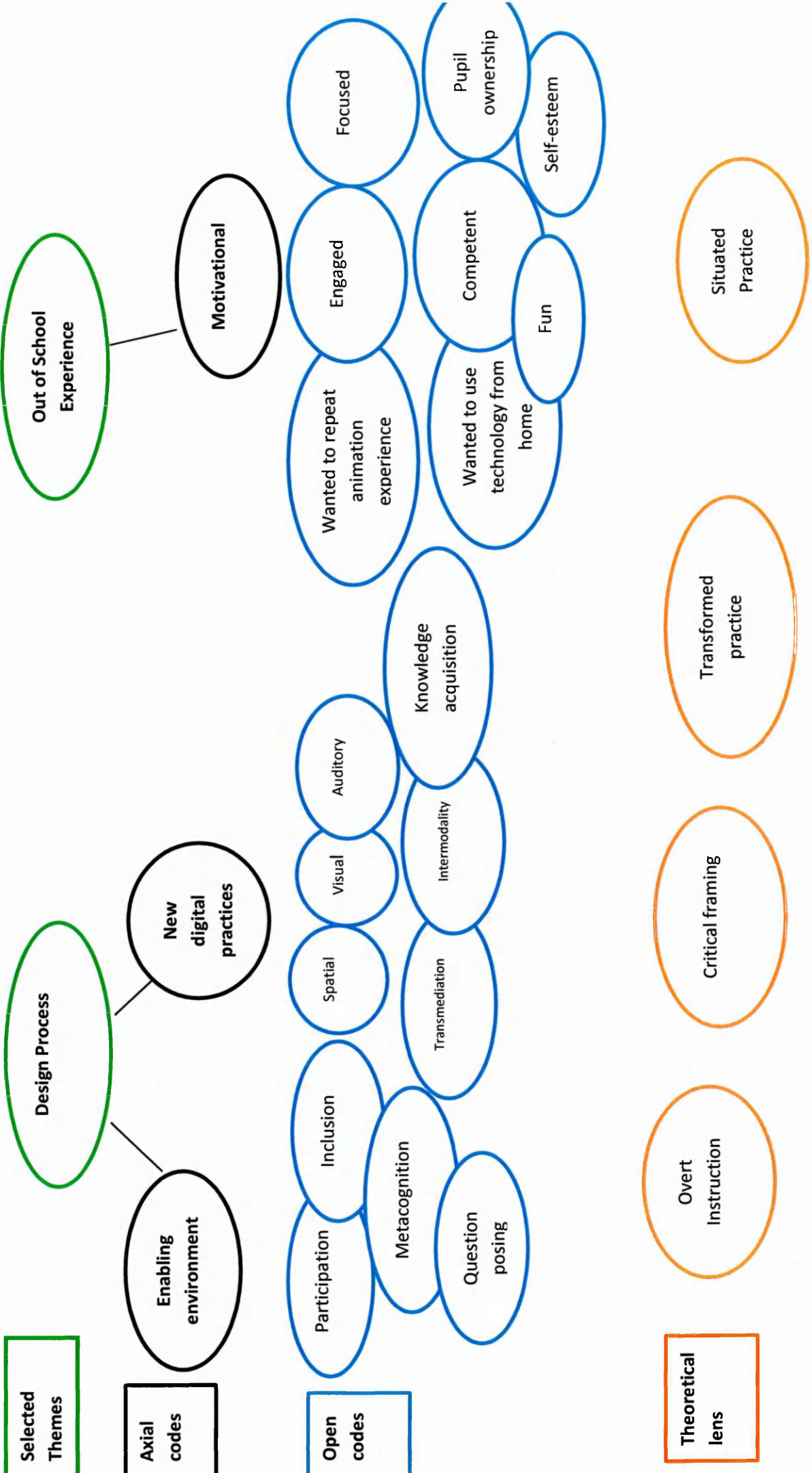
1. Do you think working in a group helped learn about history? How?

### **Multimodal Design**

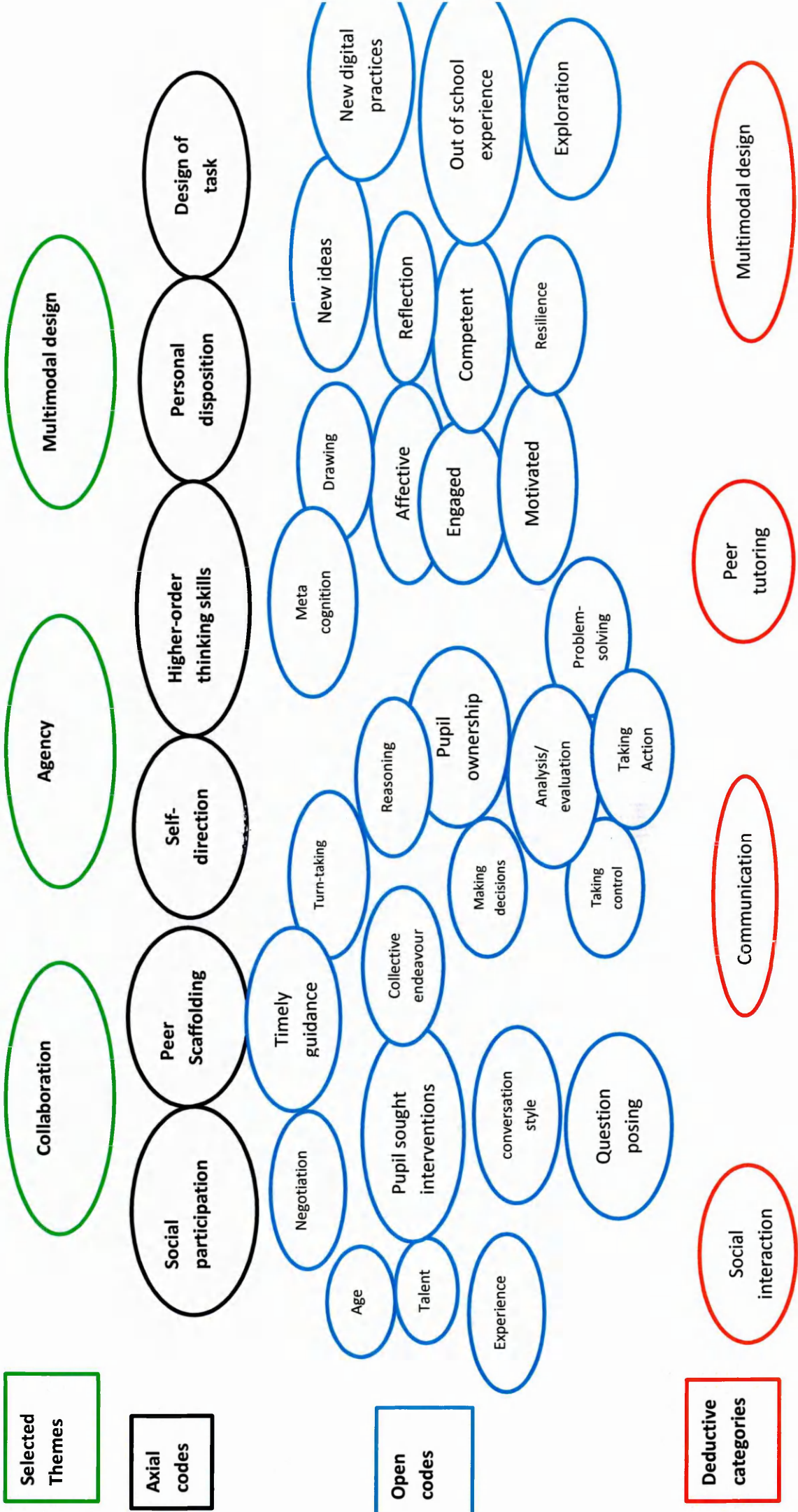
2. Did you enjoy using animation? Why?
3. What part did you like best?

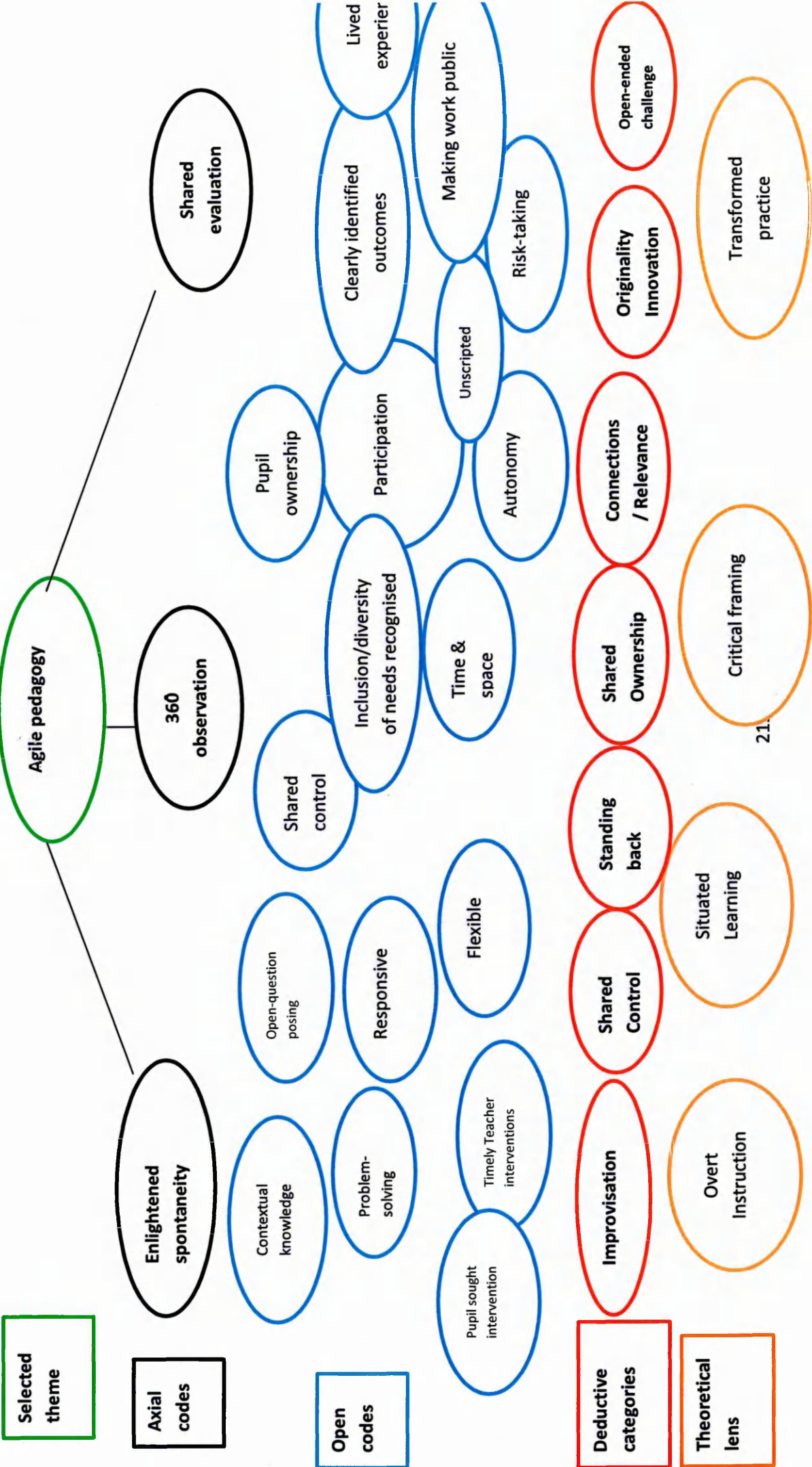
### **Collaboration; Agency; Multimodal design;**

4. Was working in a group better or worse than working on your own? Why?
5. Did you think animation changed the way we do history? Can you explain?



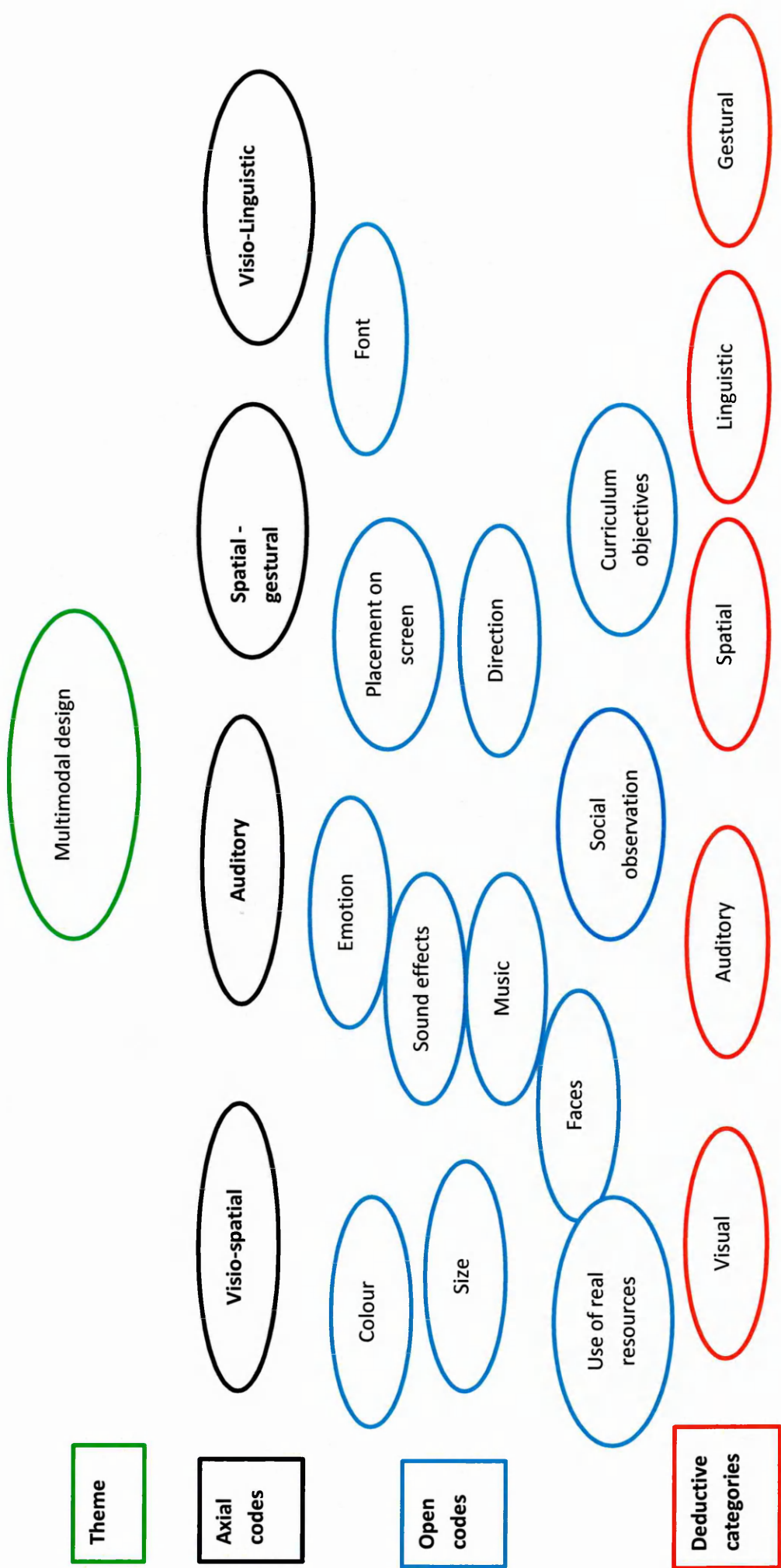








Appendix 11 (d) Coding scheme for animated films



# Appendix 12      History Curriculum strands

## 2<sup>nd</sup> class Strand: Myself and my family

### Strand unit: When my grandparents were young

---

- explore and record aspects of the lives of people when his/her grandparents were young
- listen to adults talking about their own past
- collect and/or examine simple evidence in school or in a local museum
- compare lives of people in the past with the lives of people today, noting differences and similarities
- learn songs and dances, or play games from the past
- record material on appropriate timeline.

## Third class

### Strand: Local studies

#### Strand unit: My family

---

- explore aspects of personal family history or the family history of a person known to him/her
- examine changes and examples of continuity in the lives of parents and grandparents
- collect and use a range of simple historical evidence
- present findings using a variety of media and appropriate timelines.

Appendix 13 Observed e-learning practices

e-learning practice	Action		Multiliteracies pedagogy
Intermodality	Capturing		Visual/spatial/gestural TP
	Deleting frames		Visual Critical Framing
	Duplicating action		Visual Critical framing
	Speeding it up		Visual Critical framing TP
Transmediation	Sound effects	creating	Critical framing Critical framing Transformed Practice
		recording	
		Selecting (from pre-recorded)	
	Music		TP
Designing credits	Typing	Font, colour, size	OI TP
	Placement on screen	Roll, crawl etc	TP
Blog	Responding to comments		TP OI CF

**Appendix 14 Table on interactions throughout independent collaborative work**

**(1) Choosing the story**

<b>Team</b>	<b>Length of session</b>	<b>Total interventions</b>	<b>Teacher initiated</b>	<b>Pupil initiated</b>
1	23.26mins	3	3	0
2	8.08mins	0	0	0
3	8.37mins	1	1	0
4	15.28mins	2	2	0
5	8.56mins	1	1	0

**(2) Storyboards**

<b>Team</b>	<b>Length of session</b>	<b>Total interventions</b>	<b>Teacher initiated</b>	<b>Pupil initiated</b>
1	30.22mins	6	6	0
2	27.33mins	4	4	0
3	32.54mins	3	2	1
4	34.00mins	3	3	0
5	29.12mins	1	1	0

**(3) Animation (over 5 days)**

<b>Team</b>	<b>Length of session</b>	<b>Total interventions</b>	<b>Teacher initiated</b>	<b>Pupil initiated</b>
1	3.5hrs	23	13	10
2	4.9hrs	16	13	3
3	4 hrs	16	13	3

4* 1 <sup>st</sup> team to film so incl direct instr.	3.15hrs	22	15*	7
5	5.15hrs	17	13	4

(4) Credits

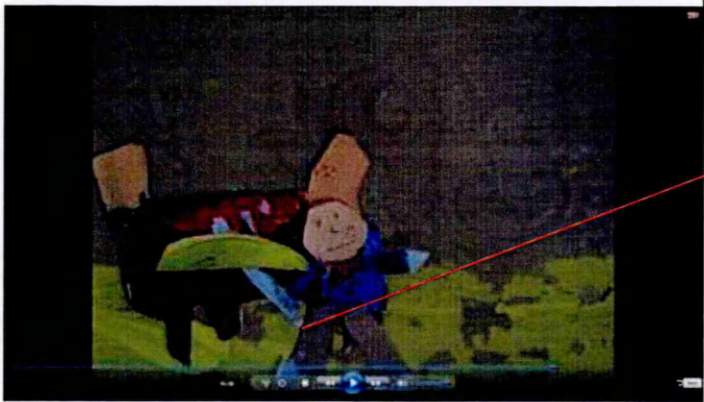
Team	Total interventions	Teacher initiated	Pupil initiated
1			
2			
3	3	3	0
4	3	3	0
5			

Appendix 15 Curriculum learning

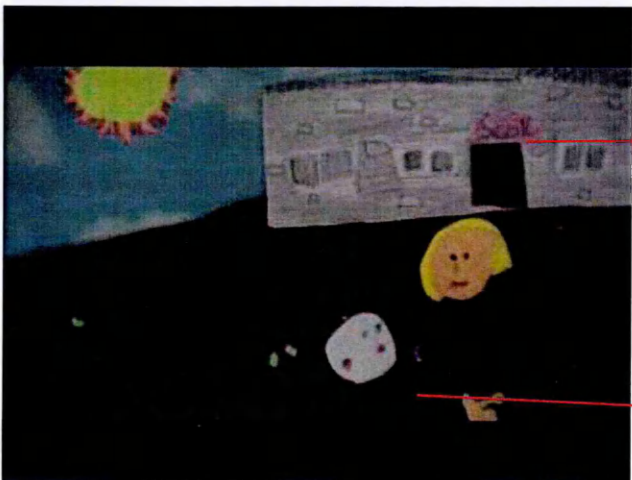
Rural Farming



Multiple uses of hay: feed animals; stuff mattress



Schools in the past



Scoil (Irish word for school, indicating prevalent use of Irish language.

Marbles game



Appendix 16 (a) Pupil research Team 1 PowerPoint Presentation Slides


**\* Research Question**

**How does film-making help us learn about history?**

**\* Data collection**

We took 202 photographs of the 5 groups and the teacher working from start to finish on their animated films. We gathered 38 pages of notes. We divided each page into 'pupils' and 'teacher' to show what each was doing.

**\* We chose 27 photographs and made a photostory out of them to show what we found out.**



© 2008, L. Brown, D. Gifford, M. Kelly, J. Kelly

**\* Summary**

- Pupils don't need a history book to learn about history.
- Watching the animations helps pupils learn about history.
- Animation helps pupils to remember their grandparents stories.

**\* Summary**

- Pupils in a group can work independently once they know what they are doing.
- The teacher helped the pupils at the start and when they were stuck.

Appendix 16 (b) Pupil research PowerPoint Presentation Slides

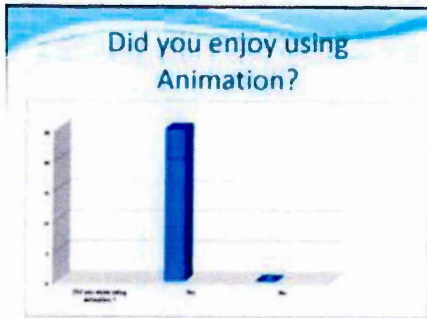
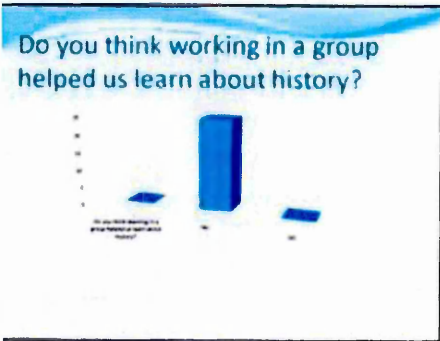
**Data Collection**

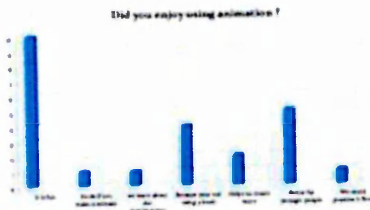
- We interviewed all the pupils in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> class, including all of us researchers, a total of 25.
- We borrowed pictures from Research Team 1 to help some pupils during our interviews.

**Research Question**

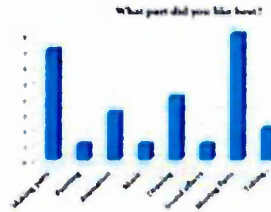
- Our research question is 'Did animation help our learning in history?' 'How'?

- This is what we found out.





What part did you like best?



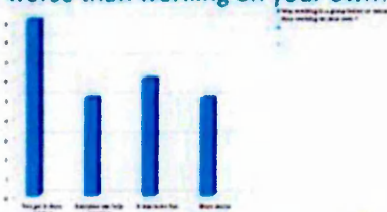
was working in a group better or worse then working on your own



was working in a group better or worse then working on your own



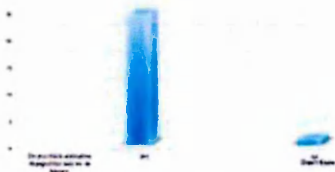
Was working in a group better or worse than working on your own?



What part did you like best?

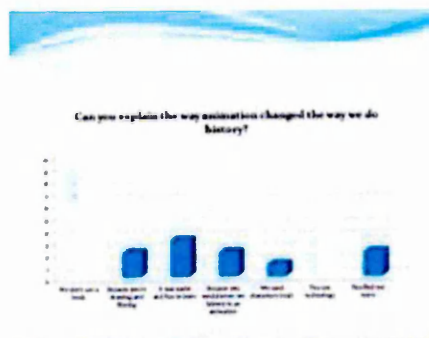
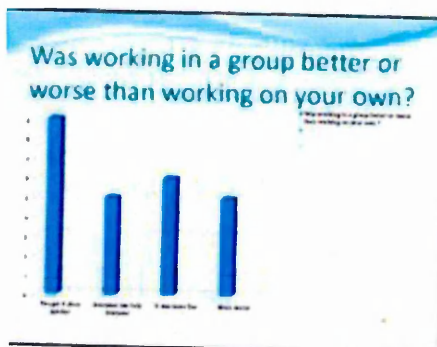


Do you think animation changed the way we do history



was working in a group better or worse then working on your own





### Summary

- Pupils prefer animation to using a book in history.
- Animation is better for younger pupils who can't read.
- Pupils enjoy making parts, drawing and animating.
- Animation changed the way pupils do history by not using a book and using technology.
- Animation makes history easier to learn.

### Summary

- Working in a group helped pupils learn about history.
- In a group there is more information and pupils can learn from each other.
- Older pupils can help younger pupils when working in a group.
- Everyone enjoyed using animation.
- All pupils found animation fun.

Appendix 17 Storyboard

Team2

Storyboard

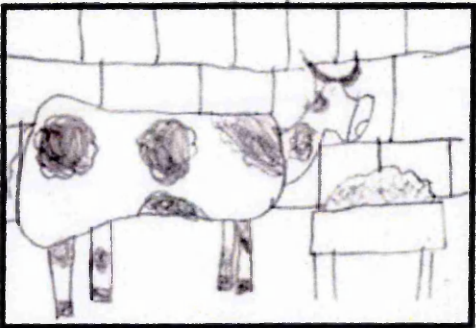
Title: \_\_\_\_\_

Scene: one



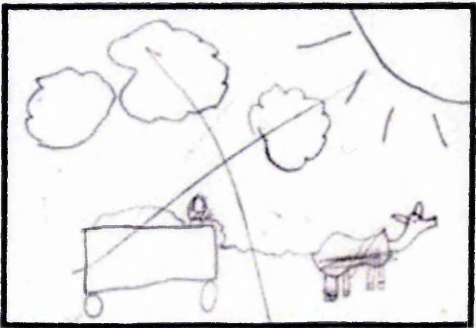
Camera position: 2d

What is happening:  
the farmer is giving  
Haw For the cows.  
.....



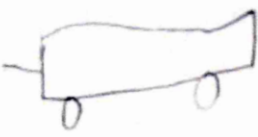
Camera position: 2d

What is happening:  
The cows are  
eating the Haw



Camera position: 2d

What is happening:  
a donkey taking a person  
to more cows!



## **Appendix 18                  Sample Blog Comments**

**2/5/2013** They are all brilliant, reminded me of my childhood, making hay by hand, slabs of butter, having only 2 channels on TV (and I don't think I'm that old!!!). Duff's shop, loved it all. Well done and keep up the good work

**30/5/2013** Fabulous work by all the teams involved and very funny . We hope to see more good work in the future.

**30/4/2013** Fantastic effort by all the teams...such imagination...I really liked Team 4 as xxxx my very special niece was involved in that one!! And I remember going to that shop when I was about xxxx's age...Keep up the good work...Mxx Mc Gxx, Melbourne

**4/7/2013** ( Learning Support Teacher) What a fab way to record your stories, love it! Well done everyone.

**8/5/2013** Well done to everyone involved, you all did a great job, a special thanks to J\*\*\*\* & A\*\* for sharing their Grandma's stories-she would be so proud x [Note: 3 grandparents died during filming/after stories collected. Added poignancy to the project]

**19/5/2013** Daddad loved our film's he though [sic] it was very good and said to keep up the good work !!  
Nannie loved it aswell and said it was excelant!! [sic] : ] : ] : ] : ]

**16/4/2013** Thanks so much to miss Moriarty for helping us through making the film's.  
we all enjoyed each other film's  
hope we can make loads more before 3 rd class leave Miss Moriarty.  
Thanks again  
K\*\*\*\*...

**9/5/2013** Brilliant imagination and excellent effort went into all films. Well done all!!!!

**30/5/2013** Fabulous work by all the teams involved and very funny. We hope to see more good work in the future.

## **Appendix 19 Transcript from Pupil research Team 1 Photostory**

### **1. The journey from a story to a blog.**

### **2. Collecting Stories**

Miss told us to collect stories from our Grandparents for our film from when they were young.

3. Every film was different because of our Grandparents were around at different times and different places. Also they would all have remembered something different.

### **4. Working in Groups**

After we collected our stories we began working in small groups. The groups were made up of a mixture of 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> class and a mixture of boys and girls. Miss picked the groups. There was 5 groups of 5.

5. It was fun hearing the stories because everyone's Grandparents were around at different times so that caused the films to be different. Most films had a mixture of each of their grandparents' story.

6. There are Grandparents from America and Wales. Irish is in nearly every group.

### **7. Storyboards**

A storyboard is a way to plan your animation. Most groups used more than one storyboard. You draw a picture in the box and in the right hand side you write what's happening.

### **8. Making Parts**

Here was the time when everyone made moving parts for their films. Everyone looked at their storyboards to see what they had to do to make characters, backgrounds and so on.

9. Every group had a different size paint brush for certain parts: thick ones for big things and small brushes for small things.

10. Some groups used rulers and others just drew the parts freely. The reason why some groups didn't use a ruler is because nothing is perfectly straight.

11. Moving parts had to be cut out. Backgrounds didn't have to be cut out. Cutting parts was hard. Some were small and fidgety. This caused some parts to be damaged and they had to remake some more. Some groups were asking Miss "Is this ok Miss?" and Miss was saying "It's your film. It's up to your group"

12. There were lots of colours used. Most of them were dark colours. It was hard to sit in to choose the colours. There was a lot of debating and voting going on.

### **13. Filming**

Here is the part where everyone started to film their story in the programme 'i-Can-Animate' using the Mac computer and one camera. Last year Miss showed us how to use 'i-Can-



Animate'. This is how the groups knew how to use it. 1<sup>st</sup> class weren't very sure but when they weren't sure they asked other people in the group and they showed them how.

14. When they were setting up the camera and the Mac computer, they had to turn on the camera before the computer.

15. Each group had to put their background under the camera. The tripod is very big. The camera was upside down. Normally the camera is on top of the tripod.

16. Each group previewed their film as they were going along. Most groups deleted parts when there was shadows. Then they filmed that little bit again.

### **17. Editing**

The sound-effects were the first part of editing. You need 'iMovies' to pop in your sound-effects. You need to put your film into 'iMovie'. 'i-Can-Animate can only film.

18. You record on the microphone and drag it into 'iMovie'. Everyone chose who was best at each sound. Some people had to use Audacity cos the microphone was not responding to the sound. Everyone laughed during the sound-effects while practising the sounds. It was great fun.

19. Most groups used the tiger-feet as footsteps. It didn't really work cos they are foam tiger-feet and you could not hear them.

20. This is a group working on sound effects for their animation. They clanged the rocks together for a stone rolling.

21. Here 2 people are recording the voice of a girl in their film.

22. Here are 2 people recording their sound-effects for their father saying "I'm off to boxing".

23. The microphone broke so we had to use audacity, save the sound onto a flash drive and then drag it into 'iMovie' where we finished our films.

### **24. Credits**

Finally everyone had to do their credits. It was different to last year because it was one big film. This year there was 5 separate films.

25. There was a big decision on the style of the credits. It was a hard decision. Each group really enjoyed it.

26. Here's the part where everyone chose their music. There was lots of music being played and most people wanted traditional Irish music. There was one group that wanted American music.

### **27. Blog**

It was our idea to set up the blog so we could get honest comments about our films.



